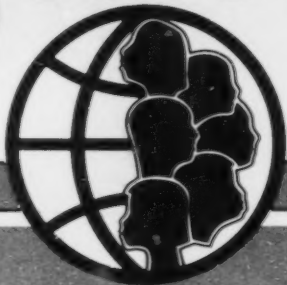


POPULATION TODAY™



Vol. 13, No. 4

April 1985

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WORLD	4,845,183	27.50
MORE DEVE	1,174,183	15.34
LESS DEVE	3,671,000	31.39
LDC LESS	2,629,000	36.45
AFRICA	551,272	45.06
NO. AFRIC	127,877	48.74
ALGERIA	22,285	45.00
EGYPT	48,337	37.00
LIBYA	3,980	46.00
MOROCCO	24,258	41.00
SUDAN	21,797	46.00

With one final button press, spread-sheet magic delivers the *World Population Data Sheet's* grand, grand totals for 1985. See page 2

A WORLD OF 4,845,000,000 PEOPLE

According to PRB's just-released 1985 *World Population Data Sheet*, the world's population growth rate has continued its very gradual slowdown, and now stands at just under 1.7 percent annually. This represents a downward shift of approximately 20 percent in the rate since the estimated peak of 2.1 percent in the late 1960s.



Mary M. Kent and Carl Haub, PRB demographers who prepared this year's *Data Sheet*.

There is less to this trend than meets the eye: fertility rates are not marching down everywhere. In fact, virtually all of the decrease in the earth's average growth rate in the past few years can be accounted for by a single country: China. The most recent data for China indicate a sharp drop in fertility from 1981 to 1983, from a total fertility rate (TFR), or average number of lifetime children per woman, of 2.6 to 2.1.

China Below Replacement Level

The reported rate for 1983 of 2.07 would mean that China is now below replacement level fertility, or the roughly 2.1 children per woman needed to ensure long-term stability in population size. Should China's fertility continue below replacement, its population would ultimately decrease, several decades hence. Thus, the Chinese government may set a goal of actually decreasing the population size to, say, 700 to 900 million from the present 1.04 billion.

The future course of China's population policy is of course unknown. China could change its policies if, for example, its leaders decided that the very rapid aging of the population (a result of continued swift birth rate decline) would cause unmanageable problems. Any shift away from the stringently enforced one-child family policy would have resounding consequences on projections of future world population size.

The Arable World

This year's *Data Sheet* puts total world population at 4.845 billion in mid-1985. Barring any major reevaluations of the size of large country populations, the next milestone, 5 billion, should occur by 1987. The projected population for 2020, 7.760 billion, is less than last year's 8.086 billion—again, largely a result of a lowered projection for China. Each edition of the *Data Sheet* contains one special, or "wild-card," column of information, the subject of which varies from year to year. *Data Sheet* users have often requested a column showing the physical size of each country. The last column of the 1985 *Data Sheet* gives this in square miles (note: 1 sq. mile = 2.59 sq. kilometers), along with the percent "cultivable" or "arable."

Overall, the world's countries contain about 52 million square miles, 11 percent of which is reported as arable by the UN Food and Agriculture Organization (FAO). As defined by the FAO, arable

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POPULATION TODAY

VOL. 13, NO. 4

April 1985

POPULATION TODAY, the newsmagazine of population and demography, is published 11 times a year (a combined issue in July/August) by the Population Reference Bureau, Inc., founded in 1929, a nonprofit organization engaged in the objective dissemination of population information. The views and opinions of POPULATION TODAY's contributors are their own and do not necessarily reflect those of PRB.

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Mailing: Printed in Washington, D.C. Mailed nonprofit postage rate in the United States; printed matter surface rate to Canada, Mexico, and to foreign subscribers.

Address Changes: Send current PRB address label and new address; please allow eight weeks for change.

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Annual memberships are as follows:

	U.S. countries	All other
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Educator—regular	20	25.00
Library (public, university, school)	40	50.00
Corporation or institution	200	250.00

*With photocopy of student ID.

**Does not include Population Today and Population Bulletins

When Adolescents Have Children

Teenage childbearing is nothing new. And in fact, fertility rates of women under 20 are declining almost everywhere, in tandem with the rates for older women. But new in the past decade or so in both developed and developing countries is growing recognition of and concern over the adverse health, social, economic, and demographic effects of adolescent fertility, say Judith Senderowitz and John Paxman in PRB's April *Bulletin*, "Adolescent Fertility: Worldwide Concerns."

Even in developed countries, rates of illness and mortality are significantly higher for teenage mothers and their babies than they are for older mothers, they report.

Early childbearing is likely to cut short a woman's education, reducing her future job options and family earnings. Often it also means larger completed family sizes which, along with shorter time spans between generations, contribute to rapid population growth.

What happens with teenage childbearing in developing nations is particularly important for world population growth, say Senderowitz and Paxman. Eighty-two percent of the world's 245 million women aged 15-19 live in developing countries now and their number is projected to go up another 75 million in the next 35 years (though numbers of women this age will decline slightly in developed nations as a whole).

Senderowitz is Executive Director of the Center for Population Options in Washington, D.C., a research and educational organization focusing on teenage fertility issues in the U.S. and abroad. Paxman, Chief of the Public Policy Division of the Boston-based Pathfinder Fund, has written widely on law and population issues, particularly related to adolescent fertility. Their *Bulletin* was prepared as a contribution to International Youth Year 1985, designated by the United Nations to highlight and improve "the world situation of youth."

In much of Africa, Asia, and Latin America where early marriage and childbearing are still the norm,



A young mother in India.

birth rates of women aged 15-19 are far over 100 births per 1,000, the authors report, though the rate is just 15 in China, the world's most populous country. These rates are generally low in developed countries—4 births per 1,000 in Japan, 9 in the Netherlands, though the U.S. rate in 1982 was 53 (45 for white women aged 15-19 and 97 for blacks). But many developed countries and some fast-urbanizing developing countries are concerned about the growing proportion of teenagers' births which occur out of wedlock—51 percent in the U.S. and 52 percent in England and Wales in 1982—and unmarried teenagers' increasing reliance on abortion.

This trend is linked with more and earlier premarital sexual activity, fostered by the lengthening "bio-social gap" between puberty and marriage, loosening of traditional parental and social controls, and increasing peer and media pressures to be sexually active.

From Nigeria to the U.S., surveys reveal that at least half of unmarried women in their later teens and a quarter as many more males are sexually experienced.

Providing unmarried teenagers with sexuality education and birth control services is still controversial almost everywhere, say the *Bulletin* authors, but laws and policies are changing. Sex education in schools (broadened to "family life education") is now mandatory in several European countries, in Costa Rica and the Philippines, in Maryland, New Jersey, and the District of

Columbia in the U.S., and widely offered in practice elsewhere.

Except for parts of Africa, China, and a few other developing countries, birth control is legally available to unmarried teenagers. But this group tends not to use family planning services "in large numbers," say the authors—held back

Continued next page

The Perils of NIH

The National Institutes of Health (NIH) has come into the sights of federal budget cutters. A directive issued by the Office of Management and Budget in December 1984, while not cutting the Senate-approved appropriations for NIH, has instead placed restrictions on the money's use: It sets aside millions of dollars of what had been money intended for 1985 for use in 1986 and 1987; it cuts the number of NIH grants for FY1985 from 6,526 to 5,000.

The National Institute for Child Health and Human Development, an NIH branch which includes the Center for Population Research, stands to lose approximately 10 percent of its appropriated grants. NIH was looking forward to an unusually high increase in the the number of grants funded.

Congress had appropriated a recordbreaking total of \$5.15 billion. Instead of spending that money on the 6,526 one-year grants intended by Congress, the directive requires some of it be used for three-year grants. As a result, the money would cover only 5,000 grants for 1985. NIH usually gives a researcher a series of three one-year grants, renewing money for the second and third year without requiring a fresh round of peer reviews. The new policy means that fewer new projects will start this year and that there will be correspondingly fewer up for renewal next year and the year after. The savings should amount to \$280 million. Many NIH observers object, stating that OMB has clearly violated the will of Congress. □

FROM THE EDITOR'S DESK

Hard-working, tastefully dressed, enterprising, cheats (as time), faithful acolytes of The System, Young Urban Professionals arguably embody a major part of the American Dream. But nothing good lasts forever. Herewith, some fearless predictions on the future of Yuppie-dom:

Yuppie Populism. Competition among baby boomers means that inevitably, most Yuppies will fall short of their goals. As ambition turns to bitterness, Yuppies will be ripe for a Yuppie demagogue ("The only reason you didn't make Senior Vice President, my friends, is because of them [insert scapegoat here]!").

Yuppie Mid-Life Crisis. ("Where did I put those old love beads of mine?")

Breaking Training. Tying on those running shoes for the 1,137th time, the Yuppie will balk at last ("What am I doing?"), contributing to the haute couture "Round Look" of the 1990s, and to...

Yuppie Hypochondria. The next major health field, as Yuppies and their physicians become as fastidious about their symptoms as about their fetterings. ("Let's run a few tests, just to be sure...")

Enjoy Them While You Can. Because 90 or 100 years from now there won't be any Yuppies. With a total fertility rate of about 0.3 children per couple (our observation), they will have (tragically? obligingly?) hived themselves out of existence.

—Art Haupt

Continued from preceding page

by embarrassment, fear of being found out, teenagers' typical risk-taking behavior and tendency not to plan ahead, and the perception that they are unwelcome in clinics geared to adults.

To reach teenagers successfully, they report, planners are learning to go where the teenagers are—in schools, recreational centers, and at work—with birth control services tied in with other activities important in adolescents' lives. "The Door" in

New York City offers family planning along with job counseling, sports, dancing, and crafts in a model copied in several Latin American cities. Jamaican and Indian programs reach young women at work. High school clinics in a dozen U.S. cities offer birth control services along with physicals, immunizations, and weight and smoking control advice. Teenage family planning volunteers in England, Guatemala, and West Germany talk with their peers in pubs and youth groups.

Say the authors: "Attempts to provide adolescents with fertility regulation need to be regarded not as attempts to subvert public morals but as what they are: forthright efforts to alleviate what is becoming a major health and social problem." Programs tailored for teenagers are "reducing adolescents' reliance on abortion through preventive measures and further, helping adolescents to understand the benefits of delayed sexual activity." □

Copies of the 50-page *Population Bulletin*, "Adolescent Fertility Worldwide Concerns," can be ordered for \$4.00 ea.; 2-10 copies, \$3.00 ea.; 11-50 copies, \$2.50 ea.; over 50, \$2.00 ea. See page 10 for handling charges.

SURVEY REPORT

Japan Survey on Family Planning

Japan has been a faithful compiler of its Public Opinion Survey on Family Planning, which has been taken every two years since 1950, when it was one of few such projects in the world. The survey is sponsored by the Mainichi newspapers in tandem with Japan's Population Problems Research Council.

Results of the most recent survey (the 17th), taken of 3,400 married women under age 50, are now available. Japan boasts an infant mortality rate of 6.2 infant deaths per 1,000 live births, one of the lowest in the world. Its crude death rate is 6.2 per 1,000 population.

The average age at first marriage for females in Japan is high, 25

years. The average number of children considered ideal is 2.55. Interestingly, this figure varies little when asked of women of different levels of educational attainment. The highest average number of ideal children, 2.64, came from college graduates, whereas the lowest figure, 2.52, came from those who have completed only primary and middle school, the lowest level of educational attainment noted.

In terms of contraceptive use, 57 percent of the wives surveyed are considered current users (up from 19.5 percent in 1950), 23 percent past users, and 17 percent have never used contraceptives. The condom is by far the number one contraceptive in Japan, with a following of 78.4 percent of contraceptive users. Periodic abstinence (or rhythm) is a distant second, with 19.9 percent, followed by the 11.6 percent who use the IUD and pill. Women are most inclined to begin using contraception once they have had 2 children.

Abortion, the survey reported, is used only partly for timing of births, and mainly for backup in the case of contraceptive failures. Of the women interviewed, 39.8 percent reported having had an abortion. Only 17.4 percent of the women surveyed stated that they approve of abortion, though 68.1 percent "approve conditionally," and 10.3 percent disapprove. □

Contraceptive Implant Coming of Age

The contraceptive implant, a major innovation in birth control, is well on its way to becoming an international commercial reality. The Norplant contraceptive implant is on sale in one country, with additional sales markets expected to open up this year. And most importantly, the World Health Organization, in an evaluation announced in December 1984, has concluded that Norplant is an "effective and reversible long-term method of fertility regulation."

Norplant went on sale in Finland in November 1983 and has just been

Continued on next page

Continued from preceding page

registered for sale in Sweden. The contraceptive's developer, the Population Council, hopes in the next two years to get the contraceptive registered in some 40 countries—approval by the U.S. Food and Drug Administration is expected in about two years; the progestin steroid used in the drug is already in use in oral contraceptives.

In short, a subdermal implant has now joined the other major forms of reversible birth control (namely, the pill and IUD). The contraceptive consists of six small silicone-rubber tubes (3.4 cm long $\times$ 0.24 cm in diameter, i.e., 1.3 inches $\times$ 1/10th inch) implanted side by side beneath the skin in a woman's arm. (Trained medical personnel must perform the insertion and removal.) Invisible and unfelt, the tubes release small amounts of the steroid

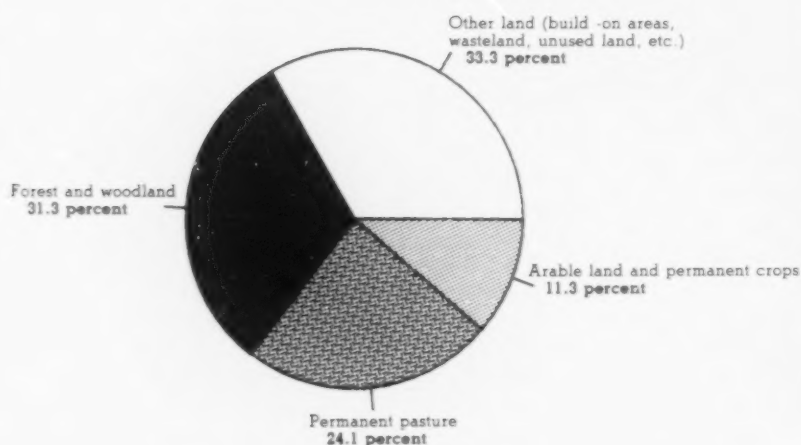
levonorgestrel into the bloodstream.

Once placed beneath the skin, Norplant works for five years without replacement (it can be removed at any time to restore fertility). The contraceptive has shown very low pregnancy rates (0.2 to 1.3 pregnancies per 100 woman users during a five-year period). Because of this convenience and reliability, the impact of implants on birth control practice—particularly in less developed countries—is potentially enormous.

This effort to develop an effective contraceptive implant began in 1966. It was conducted by Sheldon Segal and Horacio Croxatto, at the Population Council's labs at the Rockefeller University in New York. In 1976 the researchers settled on the proper steroid, and since then the contraceptive has been used in clinical trials and field studies by 14,000 women in 14 countries. □

SPEAKING GRAPHICALLY

The World's Land



Generally speaking, only a small percentage of the land area of a country is classified as arable. If so, what is the rest of the land? The above chart depicts the world's land using the FAO's classifications. Remember, "arable" here means actually cultivated, not potentially cultivable land.

Source: FAO Production Yearbook, 1983.

New at PRB

Four new members have been elected to PRB's Board of Trustees. The selections were made at the Board's semi-annual meeting in Washington, Mar. 22.

Mildred Marcy, chair of the Board, announced the new trustees. They are:

Frances Garcia, a partner in the Washington accounting firm of Quezada, Navarro, & Co.

Anne Firth Murray, program officer at the William and Flora Hewlett Foundation, in Menlo Park, Calif.

Lenneal Joseph Henderson, Jr., Professor in the School of Business and Public Administration at Howard University.

Vivian H. Walton, Vice President and General Auditor, the National Bank of Washington.

At the same meeting, trustee Michael Brewer stepped down after two full terms on the Board.

New Visiting Scholar Chosen

Robert W. Gardner has been selected as the Andrew W. Mellon Foundation Visiting Scholar at the Population Reference Bureau, Inc., in Washington, D.C. for the academic year beginning Sept. 1, 1985.

Dr. Gardner is currently Research Associate in Demography at the East-West Center in Honolulu, Hawaii, where he has been since 1970. He will be on leave from that position during his stay at PRB.

While at PRB, Dr. Gardner will study in detail the topic of Asian immigration to the U.S. He has published extensively in this area and will be concentrating on the future dimensions of migration from the Asian continent to the U.S. and its potential impact on U.S. society. He is also the co-author of a forthcoming *Population Bulletin* on Asian Americans. □

DEMOGRAPHER'S

Urban Primacy in Developing Countries: The Case of Mali

by Ousmane Sokona

Urbanization in poor countries is often characterized by the emergence of large, densely populated cities, which are sometimes seen as parasitic, rather than economically generative. There are, however, some controversies among social scientists about the role of cities in the process of development.

Some authors argue that cities create savings and play a key role in economic development,¹ because of the concentration of economic activity. Economic development may not in fact be possible without the rise of cities, it is argued.

Others contend that if economic expansion is concentrated in one or two cities, the economic development of the country's urban and nonurban areas will not be in balance.² The development of intermediate and small towns is considered necessary for urbanization to contribute to the development of the entire country.

In developing nations, intermediate cities often do not exist. Urban patterns in today's LDCs are often characterized by the existence of a large city, usually the capital, with a multitude of much smaller cities. To analyze a country's relative city sizes in a standard way, the concepts of rank size and primacy were developed by social scientists.

Rank Size and Primacy

The rank-size rule has been called the "normal" pattern of urbanization.³ Under rank sizing, the urban hierarchy follows second largest city, three times as large as the third

Mali's Cities by Rank and Size
for Localities of 10,000 and More: 1976

City	Pop. size	Rank	Approx. fraction of largest city's pop.	Rank size (2) × (3)
(1)	(2)	(3)	(4)	(5)
Bamako	419,136	1	1	419,136
Segou	65,398	2	1/6	130,796
Mopti	53,321	3	1/7	159,963
Kayes	49,429	4	1/8	197,716
Sikasso	46,498	5	1/9	232,490
Gao	30,859	6	1/14	185,154
Koutiala	27,156	7	1/15	190,092
Kati	24,828	8	1/17	198,624
San	23,377	9	1/18	210,393
Tombouctou	19,163	10	1/22	191,630
Kita	17,490	11	1/24	192,390
Koulikoro	16,132	12	1/26	193,584
Nioro	11,715	13	1/36	152,295

Source. Bureau Centrale de Recensement, 1980.

largest, and so forth. Although this series of diminishing size makes for a statistically satisfying pattern of pluralistic cities, few developing nations actually follow this rank-size rule.

More countries follow primate ranking. A country is regarded as "primate" if its largest city is several times larger than its second largest city.⁴ In general, a city of rank n is considered primate if it is more than $(n + 1)/n$ times larger than the city of rank $(n + 1)$.

Countries with one or more primate cities are characterized by an imbalanced population distribution with economic growth concentrated in very few cities, sometimes at the expense of the growth of other smaller cities and the rural areas. In addition to their disproportionate size, such cities often house government offices and thus political power. Many decision makers concentrate on the problems of these cities (such as high unemployment, and the lack of housing, schools, and basic health care), consequently spending a disproportionate share of government resources on coping

with these problems—even though the country may be facing other development challenges as well.

Mali's Urban Concerns

The case of Mali, in Western Africa, provides an example of developing world urbanization patterns—and primacy.

At first glance Mali's statistics seem deceptively reassuring. It is, after all, a relatively large and sparsely inhabited sub-Saharan country in West Africa. Of the estimated 1984 population of about 7.6 million, only 1.3 million of its people (17 percent) live in urban areas. The latest census definition requires that an agglomeration need only have a population of over 5,000 to be denoted urban. There is no requirement that such areas display other "urban" characteristics, such as large industrial, commercial, and transportation centers, modern construction, or an "urban way of life."

Mali's 17 percent urban seems quite low compared to such other sub-Saharan West African countries as Senegal (34 percent) and the

Ivory Coast (38 percent). However, 50 percent of Mali's urban dwellers reside in the capital, Bamako.

The table, which contains all cities of 10,000 or more inhabitants as of 1976, shows how Bamako compares to other smaller cities in Mali.

Ideally, according to the rank size rule, Bamako would have a population of not more than 130,796, double that of Segou, the second largest city. Bamako is actually about six times more populous than Segou, and in fact, 38.9 percent of Mali's total urban population resided in Bamako in 1976. Therefore, Mali can safely be considered primate.

Other indicators for primacy are the four- and 11-city primacy indexes. These are defined as follows:

$$\text{4-city primacy index} = \frac{C_1}{(C_2 + C_3 + C_4)}$$

and

$$\text{11-city primacy index} = \frac{2C_1}{(C_2 + C_3 + \dots + C_{11})}$$

where C_i is the size of the i -th largest city. The higher than unity any of these indexes is, the higher the degree of primacy of the largest urban center in the country. In the case of Mali, the four-city index for Bamako, equal to 2.49, indicates that the population of Bamako is about two and one-half times the total population of the next three cities, Segou, Mopti, and Kayes. In other words, the Malian capital city is primate.

The calculation of the 11-city index is nearly the same—2.34—even though the next seven cities were added to the balance. The slight (−0.15) change suggests that

Mali's cities of Rank 5 and over are much smaller than might be desired, according to the rank-size rule.

The rank-size rule holds only when the product of rank $\times$ population for each city tends to be constant across all cities (as in Column 5 in the table); or (to put it another way) when the rank (Column 3) of each city equals the denominator of its relative population size expressed as a fraction (Column 4).

From the rank $\times$ size products given in Column 5 of the table, it is clear that the system of cities in Mali does not follow the rank-size rule; Bamako's product dwarfs the product of the runner-up cities. (Interestingly, if Bamako is excluded and Segou is considered the largest city, the products of the runner-up cities are greater than Segou's.)

Conclusion

The primacy condition is present in almost every developing nation today. Bamako, a colonial capital, houses more than half of all Malian urbanites. Its annual growth rate of 11.6 percent as of 1976 is more than two and one-half times the rate for the total urban population.

The implications of rapid growth for an already primate city are not trifling. Because of the low correlation between an LDC city's rate of growth and its economic growth, a direct consequence of Bamako's high growth rate is an increasing public demand for housing, jobs, and public services, more than the city can afford. One can safely predict the emergence of social burden, created by natural increase as well as the existence of high rates of rural-urban migration.

The existence of squatter settlements is one of the major physical problems confronting urban areas in the LDCs. (Examples in Bamako

are the shanty towns of Bankoni and Bozola.) New migrants to the city tend to settle in shanty towns, lacking even such minimum services as piped water and electricity. It has been noted that squatter settlements in LDCs are usually characterized by limited literacy and low occupational skills. This leads to the well-documented urban problems of high rates of unemployment, the development of shanty towns, and higher demand for health and other services which plague many developing countries, including those in Africa. □

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1. B.F. Hoselitz. *Generative and Parasitic Cities. Economic Development and Cultural Change*, 1955, 3, 278-294.
2. W.H. Richardson. *City Size and National Spatial Strategies in Developing Countries. World Bank Staff Working Paper No. 252* (April 1977).
3. George K. Zipf. *National Unity and Disunity*. Bloomington, Ind.: Principia Press, 1941.
4. Mark Jefferson. *The Law of the Primate City. Geographical Review*. 1939, 29, 226-232.

Continued from page 2

essentially means land actually used for seasonal crop production or for permanent crops (e.g., coffee or rubber trees). Other large chunks of territory are assigned to other categories such as forest and woodland (see this month's *Speaking Graphically*, page 5).

It is important to note that "arable" and "potentially cultivable" are really two different concepts. Regions and countries often do have potentially cultivable territory which could be, but is not, used for food production. This area is not considered arable.

But expanding cultivated area to raise more food is not a simple task. While there are large amounts of potentially cultivable, yet unused, land, there are frequently sound economic reasons why the land is not used. The capability to bring additional land under cultivation varies, as does the area of potentially arable land contained in different countries.

Data Sheet Sidebars

As the new *Data Sheet* shows, the wide disparity between more and less developed countries' population growth continues; about 92 percent of population growth annually occurs in the less developed regions. The *Data Sheet* indicates that more developed countries (MDCs) are projected to increase from 1985's 1.2 billion to 1.4 billion by 2020 (projections used on the *Data Sheet* assume that present low fertility rates will continue rather than assuming that the MDCs will return to the "replacement level" of the two-child family).

Excluding China, the less developed countries (LDCs) are projected to rise to 5.1 billion by 2020 from today's 2.7 billion. As large as the 35-year increase may seem, it is based on the assumption that the LDCs will, for the most part, be well on their way to low birth rates, presumably as a result of continued increase in family planning.

All in all, considering all the ef-

fort that has gone into economic development and family planning around the world, the 1985 *World Population Data Sheet's* inventory of where population now stands shows that population changes are rarely sharp ones. What change there is comes slowly. □

See page 10 for order information for the 1985 *World Population Data Sheet*.

POSITIONS PROFESSIONALS

Positions available in population-related fields will be published in *Population Today* on a space-available basis. Send information to Positions/Professionals, PT, Population Reference Bureau, 2213 M St. N.W., Washington, D.C. 20037. Positions listed in PT are provided by Equal Opportunity Employers.

Bilingual Research Associate, Family Health International, to manage projects in maternal-child health care. **Qualifications:** PhD in maternal-child health, biostatistics, or demography, or masters degree with four years relevant experience; at least two years experience in analyzing data and report writing; written and verbal communications skills in English and French. **Contact:** Personnel, Family Health International, 1 Triangle Dr., Research Triangle Park, N.C. 27709. An Equal Opportunity/Affirmative Action Employer, M/F/H.

Grants Officer (South America/Caribbean), Association for Voluntary Sterilization, New York, to work on grant programs in the South America/Caribbean region. **Qualifications:** masters degree in public health/administration or equivalent experience, knowledge of family planning or health programs in the region; Spanish preferred. **Salary:** \$25,700. **Contact:** M. Riedlinger, Association for Voluntary Sterilization, Inc., 122 East 42nd St., New York, N.Y. 10168.

Summer Intern, General Motors Corp., Detroit, to perform work force demographic studies and analyze employment forecast data relevant to sourcing decisions for GM's Analysis and Strategic Planning Section. **Qualifications:** academic background in human resource planning, demographics, or business planning; strong background in quantitative analysis. **Contact:** Patricia J. Snider, Industrial Relations, General Motors Corp., 3044 West Grand Blvd., Room 9-101, Detroit, Mich. 48202.

Data Sheet Highs and Lows

Population	
China	1,042,000,000
St. Kitts-Nevis	44,000
Crude Birth Rate (births per 1,000 pop. per year)	
Kenya	54
West Germany	9.5
Births per year	
India	26,100,000
Antigua and Barbuda	1,200
Crude Death Rate (deaths per 1,000 pop.)	
Sierra Leone	30
Kuwait, Qatar	3
Deaths per year	
India	9,600,000
Dominica	370
Rate of Natural Increase (percent per year)	
Kenya	4.1
Hungary	-0.2
Natural Increase per year	
India	16,500,000
Luxembourg	70
Population, 2000 (projected)	
China	1,197,000,000
St. Kitts-Nevis	48,000
Population, 2020 (projected)	
China	1,288,000,000
St. Kitts-Nevis	50,000

Infant Mortality Rate (infant deaths per 1,000 births per year)	
Afghanistan	205
Finland	6
Infant Deaths per year	
India	3,100,000
New Caledonia	11
Total Fertility Rate (average total no. children per woman)	
Kenya	8.0
West Germany	1.3
Percent Pop. < Age 15	
Jordan	51
East and West Germany	17
Number < Age 15	
China	350,100,000
St. Kitts-Nevis	16,000
Percent Pop. Age 65 +	
Sweden	16
Kuwait	1
Number Age 65 +	
China	51,100,000
French Polynesia	3,000
Life Expectancy (years)	
Japan	77
Sierra Leone	34
Percent Urban	
Singapore	100
Rwanda	5
GNP per capita (US\$ 1983)	
United Arab Emirates	\$21,340
Bangladesh	130

WORLD FOOD NEWS

Calling the current famine the most serious catastrophe in the history of Africa, FAO Director-General Eduardo Saouma recently warned that the emergency food aid program now underway must be accompanied by extensive measures to revive Africa's devastated agriculture. While stressing the urgent importance of relief operations, he said that "we cannot stop at delivery of grains, edible oil, medicines, and blankets. We must simultaneously rebuild Africa's capacity to feed itself. Bags of fertilizer must be unloaded along with bags of wheat."

Emergency aid can perpetuate dependency, Saouma continued, unless a strategy to increase the productive capacity of African agriculture is simultaneously adopted. The African farmer should be helped to become self-reliant, changing roles from dependent to producer.

Fertilizers can unlock dramatic increases in productivity, he noted; proper use of fertilizers could increase yields by 50 to 60 percent in less developed countries—"A ton of fertilizer aid often translates into 10 or more tons of grain."

Third World countries used only an average of 33 kilograms of fer-

tilizer per hectare in 1982-1983. This falls far short of the 111 kilograms per hectare consumed by the industrialized nations and 122 kilograms by the centrally planned economies.

Saouma appealed to traditional donor nations as well as those that have recently emerged as major producers to provide generous fertilizer aid for the most impoverished countries. He urged action to stimulate joint ventures to increase the fertilizer production capacity in developing countries and urgent measures to use existing production capacity to the fullest. □

World Food News is prepared by the North American Liaison Office of the Food and Agriculture Organization of the United Nations.

UNFPA Funding Review Continues

The delay of \$23 million of U.S. aid to the UN Fund for Population Activities continues (see *PT*, March 1985).

The U.S. Agency for International Development is holding up the money pending review because of concern about reported coercion in China's family planning programs—and although UNFPA's population assistance to China does not go into family planning programs per se, the Reagan administration perceives a linkage.

Efforts are presently underway in Congress to compel release of the AID funds on grounds that they are earmarked for UNFPA. Meanwhile, rumors persist that AID director M. Peter McPherson may try to send a small delegation to China to investigate the coercion charges. □

Frances Breed 1918-1985

Frances Breed, an influential leader in the effort to unite population and environmental groups, died Feb. 15, 1985. She was 66.

Breed was the manager of the Population Program at the National Audubon Society, a post she held for five years. During her tenure, she was instrumental in communicating the Society's present concern about population issues. In addition, she worked extensively with both population and environmental groups to foster close relations and to emphasize the groups' mutual concerns. She had been at the Audubon Society for 13 years.

Breed was instrumental in the founding of the Global Tomorrow Coalition and was a leader among non-governmental organizations involved in population. □

Population Update

Estimated United States Population:

As of November 1, 1984	237,457,000
As of November 1, 1983	235,306,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Projection Reports*, Series P-25, No. 962.

Estimated World Population:

As of April 1985	4,824,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1985 population given on the 1985 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: November 1984

Item	12 months ending with November					
	Number			Rate		
	1984	1983	1984	1983	1982	1981
Live births	3,667,000	3,646,000	15.5	15.6	16.0	15.9
Deaths	2,040,000	2,011,000	8.6	8.6	8.6	8.7
Natural increase	1,627,000	1,635,000	6.9	7.0	7.4	7.2
Marriages	2,473,000	2,449,000	10.6	10.5	10.9	10.6
Divorces	1,160,000	1,181,000	4.9	5.1	5.1	5.3
Infant deaths	39,700	39,900	10.6	10.9	11.3	11.8
Population base (in millions)	235.9 233.5 231.3 229.1					

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source: *Monthly Vital Statistics Report* (Vol. 33, No. 11) from the National Center for Health Statistics.

NEW FROM PRB

Build-a-Text Arrives

PRB's new Build-a-Text program allows instructors to assemble their own course materials from over 40 PRB *Bulletins*, *Handbooks*, *Data Sheets*, etc. The instructor selects from three to seven materials; PRB prepares individual packets for the course, labeled with the instructor's name and course title and number. A *World Population Data Sheet* is included in each packet as a special bonus. Write PRB for a free brochure describing the Build-a-Text Program.

The Food Crisis in Sub-Saharan Africa. *Interchange*, April 1985. 4 pages. A summary of the African famine situation written for college or secondary school students, with teaching resources. Prices: \$1.00 ea., 2 or more copies, 75¢ ea.

The 1985 World Population Data Sheet. The annual grand total from PRB. See article starting on page 2 of this issue. Prices: \$2.00 ea.; 2-10 copies, \$1.75 ea.; 11-50 copies, \$1.50 ea.; over 50, \$1.25 ea.

Adolescent Fertility: World-wide Concerns. by Judith Sanderowits and John Paxman, the new *Population Bulletin* for April 1985, describes ways different countries are coping with this special problem. See article on page 3 of this issue. Prices: \$4.00 ea.; 2-10 copies, \$3.00 ea.; 11-50 copies, \$2.50 ea.; over 50, \$2.00 ea.

An Introduction to Population Dynamics. Teaching kit containing the *World Population: Fundamentals of Growth* student chartbook, six wall charts, a teacher's guide, and the 1985 *World Population Data Sheet*. \$17.50 ea.

Handling charges: inside the U.S., add \$1.00 for each order; outside the U.S., add 25 percent to the cost of the order. Orders of \$20.00 and under must be prepaid. Send order and remittance to Circulation Dept., PRB, P.O. Box 35012, Washington, D.C. 20013. Checks payable to PRB.

TAKE A NUMBER...

Canada Sets Immigration: Canada has set an immigration level of between 85,000 and 90,000 for 1985, according to Flora MacDonald, Minister of Employment and Immigration. This policy will undergo a major review next year. According to the government, immigration has had a beneficial economic effect in Canada with "business immigrants" bringing in a total of \$820 million during 1983 with that capital creating about 4,600 jobs. Admitted immigrants must have prearranged employment. This policy does not hold for persons applying under family reunification programs, expected to be about 45,000 in 1985, or refugees, expected to number 11,000. The figures are not quotas, but anticipated numbers based on current policy.

Urban Cow?: The 1980 Census has caused quite a few metropolitan areas across the U.S. to absorb neighboring counties, based upon such criteria as commuting patterns, etc. The Washington, D.C., metro area picked up the outlying counties of Frederick, Md. and Stafford, Va. *The Washington Post* recently pointed out that this has the effect of adding 190,000 people, 1,152 sq. miles and 100,000 cows! We're not sure that this means anything, but we welcome these metropolitan bovines.

U.S. Infertility: The recent National Survey of Family Growth measured infertility for all U.S. women for the first time, not just married women. All in all, about one-third of American women were incapable of, or would have had difficulty with, child-bearing, either because of physical impairment or sterilization. The proportion of young couples (wife aged 20-24) who were infertile rose from 4 percent in 1965 to 11 percent in 1982, the study also found.

From the Data Sheet: Based upon numbers given on this year's *World Population Data Sheet*, the following sobering observations can be made: There are more infant deaths in Morocco each year than in all of Europe; about 98,000 in Morocco whose population totals about 24 million and 95,000 in Europe, total population, 492 million. Cameroon, total population 10 million, has more annual infant deaths, 50,000, than does the U.S., population 239 million. But if Cameroon had the U.S.'s infant mortality rate of 10.5, it would have only 4,500 infant deaths annually. And, as the *Data Sheet* shows, neither Morocco nor Cameroon have the highest rates among less developed countries.

Here and There... "I haven't the slightest idea". So responded a Massachusetts official when a *Wall Street Journal* reporter asked him why Massachusetts enumerates dogs in its annual state census.

...addenda



As veteran *PT* readers may recall (see January 1984), the road to Clagetsville, Md., used to greet travelers with a warm, informative sign that read: "Welcome to Clagetsville, pop. 28 or 29." No more; last spring vandals made off with it. They also made off with a metal replacement sunk in reinforced concrete and with the replacement to that, which read simply "Thou Shalt Not Steal" (all these signs had been prepared by a Clagetsville resident with local pride and a sense of humor). While absconding with the signposts containing vital demographic data is not a federal offense (yet), travelers on route 27 are now on their own as far as guessing the total numbers of people residing in this teaming Free State metropolis.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

THE POPULATION OF THE UNITED STATES: Historical Trends and Future Projections. by Donald J. Bogue. New York and London: The Free Press. Macmillan, 1985. 728 pages. \$70.00. ISBN 0-02-904700-5

This is the "demographer's desk reference" for information on the population of the United States. It provides data on current patterns and recent trends in all of the major facets of U.S. population, as well as historical data, projections, and international comparisons. The materials are arranged in twenty chapters, grouped in five sections. The first covers population growth, age, sex, and ethnic composition, and geographic distribution. The second analyzes the components of population change, including family formation, fertility, mortality, and migration. Section III focuses on the social aspects of population composition, including living arrangements, education and school attendance, and ethnicity, while Section IV covers economic topics such as labor force participation, income and unemployment. The last section deals with the demographic dimension of a selection of topics: poverty, politics, housing and religion. A special chapter is devoted to the population of Puerto Rico.

The volume is data- rather than issue-oriented. It draws mainly on official sources, including the Census and Current Population Survey as well as vital statistics, but incorporates work by the National Opinion Research Center and the University of Michigan's Center for Political Studies on religion and politics. While rich in tables and charts, it leaves discussion and interpretation of its information on such major population-related policy issues as aging and immigration to its professional and policy-oriented users. But for its cost, the volume would be an excellent introductory text for courses on the population of the United States. Each chapter begins with an excellent glossary defining concepts and measures. Charts illustrate important patterns and trends, and examples of census and vital statistics reporting schedules are provided. Hopefully, its publisher will consider a less expensive text edition.

—Thomas W. Merrick

THE CHILDBEARING DECISION: Fertility Attitudes and Behavior. edited by Greer Litton Fox. Beverly Hills: Sage Publications, 1982. 271 pages. \$25.00

hardcover. \$12.50 softcover. ISBN 0-8039-0136-40.

This book, a compendium of articles by individual authors, covers changes over the last 20 years in childbearing in the U.S., the most obvious being the decline in fertility. This decline is reflected across economic, racial, educational, and social groups. Other changes are divided into behavioral and ideological categories. Behavioral changes include a rising age at marriage and increasing intervals in childspacing. However, since fewer couples are having more than two children, couples are actually becoming younger at the end of their childbearing period. Meanwhile, support for childlessness in the U.S. has increased, along with greater participant control in the birth process. Unprecedented importance is now given to the individual child. *The Childbearing Decision* also covers the major changes in contraceptive use, and explores the role of social, psychological, motivational, and interpersonal factors on U.S. fertility behavior, giving a broad overview of today's attitudes and trends.

—Maria Matan

THE WORLD OF THE OLDER WOMAN: Conflicts and Resolutions. edited by Gari Lesnoff-Caravaglia. New York: Human Sciences Press, 1984. 189 pages. \$24.95.

"The problems of old age in the industrialized world are largely the problems of women." This compact collection of 11 lively articles tells us why. A variety of dimensions of the women's world are discussed: psychosocial problems associated with stigma, low status, poverty, and low self-esteem; legal issues concerning the causes of poverty and why women have been discriminated against in the law; harassments older women are heir to, such as abuse, rape, employment discrimination, and being ignored; the isolation of institutionalized women, who as widows of advanced age often face a depersonalized environment without recourse to family or community support. The strength of this book lies in its informative and direct approach to issues. Strategies to resolve the double jeopardy of being old and being female are considered, with special emphasis on empowerment, public education, and services to support women in their care-giving roles.

—Alice Day

IMMIGRATION: Issues and Policies. edited by Vernon M. Briggs, Jr., et al. (Prepared for the National Council on Employment Policy). Salt Lake City: Olympus Publishing Co., 1985. 146 pages. \$9.95.

The three essays that make up this book review U.S. immigration policy to 1984, and deal with labor market effects of immigration. Briggs in his introductory essay observes that current immigration policy manifests a complete uninterest in immigration's implications for the labor force. He advocates shifting administrative responsibilities for immigration policy back to the U.S. Dept. of Labor. Immigration levels, he says, should fluctuate inversely with unemployment trends, and asylee permissions should be compensated for by reducing legal immigration. Prerequisite to successful policy is that measures be taken to curtail illegal immigration via such enhanced deterrence policies and preventive measures as insisting that other countries adhere to human rights principles. In their essay Robert L. Bach and Marta Tienda examine labor conditions of immigrants of various educational and ethnic backgrounds via 1980 Census data. They suggest that immigrant groups, which have suffered benign neglect, should be selectively targeted by the Job Training Partnership Act. In the third essay George Borjas, using an econometric human capital model, estimates the impact of immigration on earnings of indigenous labor, concluding that immigrants complement rather than compete with it.

—Alex von Cube

PUBLICATIONS RECEIVED

AFRICA SOUTH OF THE SAHARA 1984-1985.

Europa Publications Ltd. Detroit, Mich.: Gale Research, 1984. 1,012 pages. \$130.00.

BLACK IMMIGRATION AND ETHNICITY IN THE UNITED STATES. An Annotated Bibliography, edited by the Center for Afro-American and African Studies, University of Michigan. Westport, Conn.: Greenwood Press, 1985. 170 pages. \$29.95.

CANADIAN ALMANAC & DIRECTORY 1985. Book Tower, Mich.: Gale Research, 1985. 1,210 pages.

CONSERVATION DIRECTORY 1985. Washington, D.C.: National Wildlife Federation. 302 pages. \$15.00.

DEVELOPING LATIN AMERICA. A Modernization Perspective, edited by Pradip K. Ghosh, Westport, Conn.: Greenwood Press, 1984. 416 pages.

ENCUESTA NACIONAL DE SALUD MATERNO INFANTILE VARIABLES DEMOGRAFICAS. Ecuador 1982. Ministerio de Salud Publica Instituto Nacional de Investigaciones Nutricionales y Medico Sociales, Quito, Ecuador, 1984. 174 pages.

SPOTLIGHT

BURMA

Population (1985, est.): 37 million
Percent Urban: 24
Births per 1,000 pop.: 37
Deaths per 1,000 pop.: 15
Infant Mortality Rate: 94 infant deaths per 1,000 live births
Annual rate of population growth (1983): 2.2 percent
Area: 261,200 sq. miles (about the size of Texas)
GNP per capita (1983): US \$180

The largest country in mainland Southeast Asia, the Socialist Republic of the Union of Burma is somewhat of an enigma in contemporary Asia. A military coup in 1962 ended the constitutional democracy and initiated the "Burmese Way to Socialism." As a result, foreigners and foreign investments were excluded in order to centralize the government and economy.

In essence, the country withdrew within itself economically and culturally. Visas typically limited foreigners to a one-day stay, and information about Burma was extremely hard to come by. In recent years, however, Burma has slowly renewed contact with the rest of the world.

Recent demographic data about Burma were scanty until the Central Census Committee of the Ministry of Home and Religious Affairs released the results of the national census conducted in March-April 1983. This 100,000-man census counted 37 million people as of 1985, with an average population density of 32 persons per square mile. However, two-thirds of the population lives in the central plateau and southern delta regions along the Irrawaddy River. The vast majority of the country, 89 percent, practices Buddhism.

The country's ethnic makeup is the source of internal strife. The 25 million people who make up the ethnic majority, the Burmese, some 68 percent of the population, dominate the country today as they have for the past nine centuries. Incorporating the ethnic

minorities, who primarily inhabit the mountainous frontier, into the national life and political structure of Burma is the major struggle of the central government. Currently, the main ethnic minorities, the Karen (Christians), and the Shan, estimated at about 2 million members each, are conducting armed insurgencies against the government. In addition, there is the ongoing struggle against the outlawed Burmese Communist Party dating back to independence from Britain in the wake of World War II.

Only 15 percent of the total area of Burma is under cultivation, and unlike its Southeast Asian neighbors, Burma has an equal amount of yet unused, but potentially cultivable land. The population is growing at a rate of 2.2 percent per year, projected to reach 51.6 million in 2000. The government considers this a satisfactory rate of growth, as it looks to increase the labor supply for agricultural production. The government therefore does not make modern contraceptive methods available to its populace.

Sixty-three percent of the workforce is engaged in agriculture. Due to shortages of fertilizers, pesticides, and farm machinery, much of the agriculture is traditional. Burma is a nation of small landholders with 60 percent of the farmland held by families with 10 acres or less. Along the mountainous

periphery, agricultural techniques are untouched by modern methods. The primary crop is rice, followed by sugar cane, jute, pulses, and groundnuts.

Burmese agriculture suffered greatly from the ravages of World War II and the loss of British technical assistance after independence in 1948. Rice production did not reach pre-war levels again until 1964. The total acreage under cultivation has stabilized at pre-war levels, and although production per acre is now on the rise due to new strains of rice, Burmese agricultural yields are among the lowest in Asia. The steady rise in population, along with the static level of land under cultivation, has resulted in a decline in the quantity of cultivated land per person from 1.39 acres to 0.77 between 1940 and 1978.

Due to the relatively low level of industrialization, Burma has not experienced the rate of urbanization witnessed in other developing nations. Rangoon, the capital, has a population of about 2.5 million, while the second city of Mandalay has a population slightly greater than a half a million. Seventy-six percent of the population is rural.

Immigration into Burma is severely limited. In 1978, Burma reached an agreement with Bangladesh to prevent illegal border crossings. The Bangladeshis agreed at this time to repatriate some 200,000 Muslim Burmese who had settled across the border.

Internally, there has been migration from the peripheral mountain areas to the central agricultural districts—particularly from the areas of insurgency during periods of fighting. The government is attempting to effect a spatial redistribution by resettling the urban poor from the slums of Mandalay and the capital city of Rangoon to planned satellite towns. □

This Spotlight was prepared by Steven Perry, PRB intern. Thanks also to Margaret Greene, Population Education Assistant, who wrote PT's March 1985 Spotlight on Nevada.



Burmese women market vegetables.

POPULATION TODAY™



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Demographers descend upon Boston. See page 2

PAA Bounds to Boston

"If you like the weather, wait a minute"—so goes the dark version of a salty New England adage. But fortunately, the good weather generally held up as the Population Association of America trekked to the Hub of the Universe Mar. 27-30 for its 1985 meeting.



Except for a late-week touch of rain, Boston skies were blue and sunshiny, and the 1,073 PAA attendees could renew old acquaintances and stroll about the Public Gardens. Most of their three-day meeting time was necessarily spent inside, however, as they delivered and/or heard papers in a record 63 sessions, trolled the corridors, and assessed among themselves the State

of the Population World in the mid-1980s. Notes about some (though hardly all) of the sessions, and much of the goings-on, follow.

Two meetings of specialized population groups customarily precede PAA proper: APLIC and the Psychosocial Workshop.

APLIC: Attendees of the 18th Annual Conference of the Association for Population/Family Planning Libraries and Information Centers-International (APLIC) heard a keynote address by Steven Isaacs, of the Center for Population and Family Health at Columbia University. He gave a comprehensive overview of world population issues, and warned of the dangers both of censorship and the self-censorship that attempts to avoid trouble at all cost. The present climate of apprehension and fear should not, he said, be underestimated.

Other APLIC speakers included Graham Peck of IPPF (London), Don Sawyer of the Universidade Federal de Minas Gerais in Brazil, and Alice Harris, Research Information Specialist with the East-West Center, who reported on the increase in Asian national population centers over the past decade; previously, UNFPA had been virtually the sole source of information for population librarians. Harris stressed the APLIC objective of increased networking between libraries via mini-computers. A population education film festival, which included the excellent film "Our Finite World" (available from UNFPA), wrapped up the APLIC meeting.

Psychosocial Workshop. The 13th pre-PAA Psychosocial Workshop attracted some 70 farflung psychosocialists for two days of lively give-and-take in nine sessions, fortified by chocolate chip muffins for breakfast, fresh fruit for afternoon tea, and a seafood dinner overlooking Boston's spectacular harborfront.

A session on the new reproductive technologies (artificial insemination, in-vitro fertilization, prenatal screening, etc.) raised such issues as: Who are a child's "real" parents, when as many as five persons can now be involved in the genetic/carrying/nurturing process? Will the new technologies be available to the poor? If prenatal screening were to become mandatory (as has been suggested in Congress), would a woman have the right to choose to give birth to a disabled child?

Other sessions focused on natural family planning (now receiving a significant share of U.S. federal family planning research and service funds) and the frustrations of getting contraceptive advertising on TV and into leading newspapers, who profess that their viewers/readers

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POPULATION TODAY

VOL. 13, NO. 5

May 1985

POPULATION TODAY, the newsmonthly of population and demography, is published 11 times a year (a combined issue in July/August) by the Population Reference Bureau, Inc., founded in 1929, a nonprofit organization engaged in the objective dissemination of population information. The views and opinions of POPULATION TODAY's contributors are their own and do not necessarily reflect those of PRB.

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Mailing: Printed in Washington, D.C. Mailed nonprofit postage rate in the United States; printed matter surface rate to Canada, Mexico, and to foreign subscribers.

Address Changes: Send current PRB address label and new address; please allow eight weeks for change.

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Natural Family Planning In 1985: A Status Report

by Jeff Spieler and
Alexandrina Shuler

Methods of family planning based on periodic abstinence (referred to as Natural Family Planning, or NFP), have attracted renewed interest in recent years. NFP methods have been promoted because of the continued importance placed on providing the widest possible range of methods for couples who wish to voluntarily limit or space births. And NFP has found acceptance among some people who find other family planning methods unacceptable for medical or personal reasons.

Couples who use NFP monitor physical signs and symptoms to determine the woman's fertility, and time intercourse accordingly. To prevent pregnancy, a couple must practice abstinence on fertile days.*

The prevalence of NFP use ranges from about 35 percent of contraceptors in Peru, and about 20-25 percent in Haiti, the Philippines, and Sri Lanka, to a mean of about 7.5 percent in 23 other less developed countries (LDCs). Rhythm is still the most widely used NFP method, but survey statistics are relatively imprecise because they do not always separate combined use of NFP with withdrawal or other traditional practices. According to the 1982 National Survey of Family Growth, in the U.S. 4.7 percent of contracepting, formally married women use a method based on periodic abstinence. This figure has remained stable since 1973 while female sterilization has doubled and pill use has declined by about 50 percent.

NFP Methods

Three methods are promoted by most NFP programs: the basal body temperature (BBT) method, the cervical mucus method, and the sympto-thermal method. Modern

NFP methods rely on observing physiological changes associated with ovulation to determine the woman's fertile period, in contrast to the rhythm method, which is based on previous menstrual cycle lengths.

The BBT method is the most quantitative of techniques that can be used at home to detect ovulation. The infertile phase of the cycle is identified by a shift (0.4-1.0 degree Fahrenheit) in temperature from a lower preovulatory level to a higher postovulatory level. When intercourse is restricted to only the postovulatory phase, the method is 94-99 percent effective. When the rhythm method is used in conjunction with BBT to identify the preovulatory infertile days, the method is 80-92 percent effective.

The major disadvantage of the BBT method alone is that abstinence is necessary for the entire preovulatory period and only about 7-13 days are available for intercourse, depending on the cycle length. The BBT method requires thermometers, and the woman must take her temperature every morning before rising and have the skill to plot and interpret her temperature graph. Further, the method is of little use during episodes of fever and periods of anovulation (e.g., during lactation, or around menopause).

The cervical mucus method, frequently referred to as the Billings method (after John and Evelyn Billings, its developers) or the ovulation method, is based on the woman's ability to observe changes in the quality of cervical mucus detected at the vulva. By paying attention to the consistency of the mucus and/or its physical appearance (which change during the menstrual cycle), and following a number of specific rules, the woman can identify the fertile and infertile days of the menstrual cycle.

In a World Health Organization study, 93 percent of the women observed were able to recognize and record cervical mucus changes during the first cycle following instruction by an experienced teacher.

Noteworthy was the fact that illiterate women in LDCs were able to learn the method as quickly as university graduates in the more developed countries. When the rules were followed correctly, which meant abstinence for about 15 days out of a 28-day cycle, the method was 97 percent effective. However, the actual use-effectiveness was only 80 percent, primarily because many couples did not refrain from intercourse during the fertile period.

Continued on page 9

U.S. Teens Lead MDCs In Births, Abortions

American teenagers have, in general, higher rates of pregnancy, abortion, and childbearing than teenagers in virtually all other developed countries, according to a wide-ranging study from the Alan Guttmacher Institute. The U.S. is the only developed country where teenage pregnancy has been increasing in recent years, the study reported.

The pregnancy rate for U.S. women 15-19 years old as of 1981 was 96 per 1,000. By comparison, rates were 45 for England and Wales, 43 for France, 35 for Sweden, and 14 for the Netherlands—half or less than the U.S. rate. The rates of sexual activity of the teenagers in all the countries are, for the most part, similar.

AGI studied birth rates and (where available) abortion rates for 37 developed countries. The U.S.'s abortion rates were again the highest. According to the study, by the time they are 18 years old, 50 of every 1,000 women in the U.S. have had an abortion. By contrast, in the Netherlands, which ranked lowest in abortion use, only 7 of every 1,000 women age 18 had had an abortion.

Overall, the study concludes that the lowest rates of teenage pregnancy were in countries that had liberal attitudes toward sex, had easily accessible contraceptive services for young people (with contraceptives being offered free or at low cost and without parental notifications), and had comprehensive programs in sex education. □

*By definition, the use of withdrawal or barrier (contraceptive) methods during the fertile period is not considered NFP. Combining barrier methods with detection of the fertile period is called the "fertility awareness method" in some public sector programs.

FROM THE EDITOR'S DESK

The "foolish precision" of unnecessary statistical decimals has already been written about (by demographer Ralph Thomson). But what about the foolish precision of digits? Social Security numbers seem reasonable, administratively speaking; out of a possible 1 billion combinations, 290 million have been used during Social Security's first half century—205 million are still active—and it's likely that nine (and no fewer than nine) digits will suffice for many years to come.

But why nine-digit Zip codes (enough to divide the U.S.'s territory into 1 billion tennis-court-sized addresses)? Why nine- and 10- and 13-digit phone numbers (enough to divide the entire world into 10 trillion breakfast nooks)? And why 17-digit Vehicle Identification Numbers (enough to register the car production of 50,000 smog-bound planets for 100,000 years)?

—Art Haupt

SURVEY REPORT

Canada

Results of Canada's first national fertility survey reveal that sterilization is even more popular there than in the U.S., the very low Canadian fertility rate (1.7 births per woman, below the U.S.'s 1.8) may turn up slightly, and cohabitation may be more prevalent than in the U.S.

The survey was recently released to the Canadian press and partially reported at this year's Population Association of America meeting by survey codirector T.R. Balakrishnan. It consisted of telephone interviews, averaging 36 minutes apiece, conducted April-June 1984 with a nationally representative sample of 5,315 women aged 18-49. Of these, 3,238 were currently married, 1,430 never married, and 602 separated,

divorced, or widowed. The study was funded by the Canadian government's Social Sciences and Humanities Research Council.

Sixty-eight percent of the women aged 18-49 were using contraception at the time of the interview (compared to 55 percent of women aged 15-44 interviewed in the U.S. National Survey of Family Growth of 1982); 73 percent of currently married women, 57 percent of the never-married (35 percent in the U.S.), and 69 percent of the separated, divorced, or widowed.

Sterilization was used by 48 percent of contraceptors overall (compared to 33 percent in the 1982 U.S. survey)—35 percent, female sterilization; 13 percent, male sterilization—followed by the pill (28 percent), condom (9 percent), and IUD (8 percent). The pill was used by 41 percent of currently married contraceptors aged 18-29 but only 1 percent of those aged 40-49, 83 percent of whom used sterilization.

Among currently married contraceptors, Catholics were slightly less likely than Protestants to use sterilization (60 versus 64 percent), but more likely to use the pill (16 compared to 14 percent).

The survey also found that women aged 18-24 expected to have 2.25 children on average, slightly more than women aged 30-34 (2.01), suggesting a possible slowing down or slight reversal in the decline in the national fertility rate which has been below the replacement level of 2.1 births per woman since 1972.

Eight and one half percent of the women were living in a "common law relationship" or cohabiting at the time of the interview and 29 percent had done so at some time. Of those aged 25-29, 43 percent had lived with a mate without being married. In an interview Balakrishnan said, "These figures are higher than anything we've seen from the U.S." Of the relationships reported, 39 percent resulted in marriage, 38 percent of the couples broke up, and 20 percent were still living together.

Complete results of the three-year project will be published in the latter part of 1986. □

U.S. Cuts UNFPA Population Aid; China Cited

In keeping with its anti-abortion stance, the Reagan Administration has announced that it is cutting \$10 million of its contribution to the United Nations Fund for Population Activities (UNFPA), indirectly citing reports of compulsory abortion in China as its motivating factor.

The Agency for International Development (AID) said it will contribute \$36 million of the \$46 million Congress appropriated for UNFPA. It said the \$10 million withheld is about the sum the UN agency allocates to China. Reportedly, the UN has given assurances that the \$36 million will be kept in a separate account and not spent in China. Authorization will be sought from Congress to use the \$10 million in other family planning programs abroad.

M. Peter McPherson, the AID administrator, is under attack from both sides: those people in favor of international population programs are distressed with this recent action, and some conservative groups have criticized him for, in addition to some other AID activities, allowing any money to be allocated to UNFPA at all. Indeed, nearly 30 conservative groups have joined in a call for McPherson's resignation. □

Egypt Establishes National Population Policy Panel

Egypt's President Hosni Mubarak announced in January the establishment of a National Population Council to coordinate all population program and policy activities in Egypt.

The new council replaces the Population and Family Planning Board. Dr. Maher Mahran has been named Secretary-General of the Council, and President Mubarak has indicated his intention to serve personally as its chairman. □

Demographics Force Soviets to Begin Inducting Women

For the first time, women may become a part of the Soviet Union's military. Faced with a declining pool of eligible young men, on Mar. 18 the USSR amended its draft law to provide for registration of women age 19-40 with "medical and other specialized training." These women could be required to undergo military training and would be "accepted on a voluntary basis into active military service."

At the root of the Soviets' worries is declining population growth. All able-bodied Soviet men are required to serve two years in the armed forces after leaving high school. In the past, college students could defer their service until graduation. But such deferments have been drastically cut in recent years.

According to Soviet figures, the annual increment to the working age groups in the 1980s is running less than half what it was during the previous decade. Murray Feshbach, demographer and expert on the Soviet Union, was one of those who predicted this situation (see PRB's 1982 *Population Bulletin*, "The Soviet Union: Population Trends and Dilemmas").

The change in the draft law was interpreted by observers as a way to relieve pressures and to meet quota requirements by using women in communication, clerical, and other jobs. The armed forces currently employ women at regular civilian salaries.

Meanwhile, after four years of increasingly successful recruiting, the United States military is also facing the prospect of a drop in the number of 18- to 21-year-old men and women. At present, women make up about 9 percent of the U.S. armed forces, which are now volunteer. But enlistments have fallen off slightly in the past year, along with the proportion of recruits who are high school graduates. The days of numerous, well-qualified potential recruits appear to be over. □

OPINION

by J. William Leasure

The populations of many Third World countries are hungry, unemployed, displaced, and dying. Unbridled population growth compounds this misery. Once again, people are wondering how the birth rates can be reduced in these countries. An examination of the factors that were associated with declining fertility in those countries which now have low or falling birth rates can lend insight into what might precipitate fertility reduction in many developing countries today.

Conventional wisdom holds that industrialization and urbanization reduce fertility by altering attitudes about the desirability of children. History shows, however, that a major factor in fertility reduction has been the challenge to the traditional value structure of Church and Crown, either through military action or social reforms inherent in the development process.

In the U.S., for example, fertility reduction began in the late 18th century, at the time of the American Revolution and long before industrialization and urbanization. England's birth rates began falling in the latter quarter of the 19th century, a time of many political and social reforms, such as a system of elementary public education, the secret ballot, and full manhood suffrage. This was long after the onset of the Industrial Revolution.

How did changes in political and social life lead to birth control? I argue that this growth of autonomy led to a greater sense of control over all aspects of one's personal life, including the reproductive

sphere. This allowed people to act in a manner that furthered their personal and economic well-being. This was true not only of the 18th- and 19th-century Western countries, but can also be seen in developing countries today. Revolution has led to a decline in fertility in Cuba, and can be expected to do the same in Nicaragua. China's post-revolution fertility rates are declining, and India, which has experienced no such jolt to its social structure, must cope with relatively high fertility.

Peaceful social reforms as well as revolutions can contribute to a sense of power and direction resulting in control of reproductive activity. Tunisia, for example, until recently had declining birth rates which accompanied social reforms that emphasized liberation for women from traditional roles. Before Khomeini's revolution in Iran, women's roles were changing and fertility was on the downswing. Algeria and Kuwait, by contrast, both have high birth rates, along with unchanged, traditional customs which subordinate women.

Are there any lessons to be learned from the experience of countries that have succeeded in reducing fertility? It appears to me that a prerequisite for fertility reduction is the growth of political and social freedom for both sexes. The policy for our government, if it wishes to encourage a reduction of fertility in developing countries, should be one that encourages social, economic, and political reforms.

J. William Leasure is Professor, Dept. of Economics, San Diego State University.



The hotel, and some faces at PAA: Paul Demeny, Ansley Coale, Yuan Tien and Leon Bouvier.

Continued from page 2

are "not ready" for such advertising, while at the same time they editorialize on the nation's high rate of teenage pregnancy—which many believe is due in great part to a lack of contraceptive information.

PAA Sessions

Two sessions offered panel discussions involving prominent, and sometimes controversial, population figures. Highlighting "Economic Development and Population Growth" (moderated by PAA president-elect Paul Demeny of the Population Council) were the conflicting opinions of the World Bank's Nancy Birdsall (who sat in for the absent D. Gale Johnson of the University of Chicago) and pro-growth advocate Julian Simon of the University of Maryland.

Simon reiterated his conviction that all the hard data indicate that population growth is economically beneficial ("You can fly over Hong Kong today...") and stated that the popular media ignore this viewpoint in favor of doomsayers such as Lester Brown of the Worldwatch Institute and Werner Fornos of the Population Institute. Simon claims that population growth has no observable negative effect on the environment, and he finds no scientific evidence to the contrary.

Birdsall pointed out that the World Bank, in its 1984 *World Development Report* which featured population and economic development, did not in fact examine the question of a balance between population and resources, but rather the consequences of rapid population growth in social terms. The World Bank concluded that rapid population growth may slow economic growth not directly, but by burdening social and political systems.

Another panelist, the University of Southern California's Richard Easterlin, discussed family planning, saying that programs which go "beyond family planning" (incentives, for exam-

ple) unfairly penalize the poor, and that reduced infant mortality can be more effective than family planning programs for reducing fertility. Historian Charles Tilly of the New School for Social Research rounded out the panel. In what little time was available for audience input, Ronald Freedman of the University of Michigan charged Simon with hanging around with "crazies," pointing out that the "doomsayers" Simon cited do not represent the views of the mainstream of the PAA membership.

Another major panel discussion was entitled "The 1984 World Population Conference and Its Implications." Panelists Rafael M. Salas of the UNFPA, Fred T. Sai of the World Bank, Sheldon Segal, the Rockefeller Foundation, and Steven Sinding, director of the Office of Population at the Agency for International Development (AID), sang familiar tunes. The first three linked the lowering of population growth with economic development, emphasizing countries' sovereignty in setting population policy and in deciding moral questions. Sinding, speaking for the Reagan Administration, declined to comment on the U.S. position in Mexico City but reiterated AID's position that it will no longer contribute to organizations that support abortion, indicating that AID Administrator M. Peter McPherson was still reviewing the contribution to UNFPA (which was indeed reduced, see article on page 4).

Getting back to U.S. population issues, the Census Bureau's William Butz, Kirk Wolter, and Constance Citro, as well as Charles Nam of Florida State University, participated in a well-received panel discussion on the 1990 Census. How to adjust the 1990 Census for undercount was discussed at length. The effects, as well as the cost, of such an adjustment and comparability to past censuses are important aspects of the issue. The question of census content was also examined. Nam criticized the Bureau for its

preoccupation with continuity, declaring that 1990 should be a turning point. Finally, the Census Bureau officials encouraged the public's input regarding questions to appear on the census, saying that individuals should write the Director of the Census Bureau in support of specific questions.

Cohabitation was a relatively hot topic this year. Ann Blanc of Princeton University reported that data from the 1977 Norwegian Fertility Survey and 1981 Women in Sweden Survey reveal that in these countries, "Cohabitation is no longer an alternative life style." Swedish women, for example, are ten times more likely to cohabit than marry for their second union, and in both countries the majority of the large proportion of women who end a first union (marriage or cohabitation) enter a second union within five years.

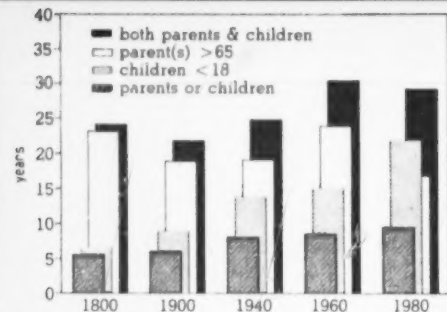
In "The Feminization of Poverty" session, a consensus was reached among the papers given that being a single parent comes with severe economic consequences. It was noted that female-headed households became less poor over the last decade, but the proportion of families headed by single females increased. Stricter enforcement of child-support awards was recommended. In addition, the discussant, Paul Culligan of the Congressional Budget Office, said the feminization of poverty could be reduced by improved education and training for women, affirmative action, and issues of comparable worth.

In "What Have We Learned from the WFS [World Fertility Survey] That Is Relevant to Future Research on Fertility?" it was agreed that the WFS was a major administrative and theoretical achievement. However, discussant Charles Westoff of Princeton University argued that it is the diffusion of new ideas, aspirations, and norms—not macroeconomics—that

Continued on next page



President Jane Menken addressing PAA on years of responsibility to dependents (chart).



Continued from preceding page

brings about fertility change. To measure such diffusions, Westoff, John Casterline (Brown University), and Jack Caldwell (Australian National University) urged more intensive surveys at the household level to ferret out "the family context in which reproductive decisions take place," as Caldwell put it. Contraceptive-use data (needed by policymakers) can be measured in cost-effective prevalence surveys, like those planned as a part of the 35 country surveys now under way in the Demographic and Health Surveys project.

Why people work in non-day shifts was examined in Harriet Presser's paper given at the "Marriage, Childbearing, and Labor Force Participation" session. Using data from the Current Population Survey, Presser (of the University of Maryland) looked at sex-specific participation rates of those working non-day shifts by industry. Though formerly it was assumed that the work schedule is irrelevant, Presser found that couples with children are more likely to be shiftworkers than those without, in order to split childcare responsibilities.

The annual breakfast meeting of PAA's Committees on State and Local Demography and Business Demography provided an opportunity for review of their ongoing activities and continued discussion of future collaboration between these two up-and-coming groups. The pros and cons of referring to their joint efforts as "applied demography" were debated, and it was agreed that their jointly sponsored newsletter would bear that label. There was also great enthusiasm for the Panel on Demographic Careers in Non-Academic Organizations that the two committees sponsored, with many members urging that another like it be organized for PAA's 1986 meeting. It was noted that recently much of the increase in PAA membership has come from outside of

academia, and also that since many of these new members work for corporations with grant programs, it should be possible for the committees to attract additional financial support for their activities from corporate donors.

Friday afternoon offered luncheon roundtables for those participants willing to pay an extra \$13 with their registration fee. In Ohio State University's H. Yuan Tien's roundtable on Chinese population issues, Tien talked of the unmanageably large quantities of data now coming out of China, and emphasized the regional differences in Chinese data which result both from varied cultural characteristics and from the administration and success of family planning programs in different areas.

Getting Down to PAA Business

At the PAA business meeting, Michael S. Teitelbaum, chairman of the Public Affairs Committee, reported on "two serious threats" to funding for population research that have materialized in the last year or so.

The first threat is to funding of population research. To save money in upcoming years, the U.S. Office of Management and Budget wants to keep National Institutes of Health research grants at around \$,000, although Congress had instructed the agency to fund 6,500. This will affect population grants coming from NICHD, which is part of NIH. On behalf of the committee, Teitelbaum had sign-up sheets passed out through the audience so that PAA members could be called upon to contact their Members of Congress when necessary.

Threat #2 was the string being tied to Agency for International Development research, stipulating that researchers certify that no funds received by them would go to foreign organizations that conduct or promote abortion. The request for such a signed statement from demographers was seen as a constraint on academic

freedom.

In other business, the foreign subscription price of *Demography* was dropped (to \$17 annually) to increase subscriptions from other countries. There was a call for childcare service at future PAA meetings, and Ed Bisgyer, recently retired as managing director of the American Statistical Association (ASA), was honored with a plaque for his 18 years (1966-1984) of service as PAA business manager.

Friday night's Presidential Address was preceded by the annual awards ceremony. The Dorothy S. Thomas award for the best paper by a graduate student on migration or on demographic-social-economic interrelations was shared by two recipients this year: Sherrie Kossoudji of the University of North Carolina was recognized for her paper on immigrant assimilation into the U.S. economy, and Insan Tunali, a PhD candidate at the University of Wisconsin and Associate Professor of Economics at Cornell University, was honored for his paper entitled "Migration and Earnings: From Theory to Fact."

Ronald Freedman presented the Irene Taeuber award for excellence in demographic research to Jack Caldwell, Department Chairman and Professor of Demography at the Australian National University's Research School of Social Sciences, Institute of Demographic Training. Freedman described Caldwell as "one of the most important people in [demographic] intellectual influence."

In the annual Presidential Address, PAA President Jane Menken analyzed two topics, both relating especially to women: infertility and the changing size of successive generations of mothers, daughters, and granddaughters. Menken recognized that infertility is a legitimate concern which appears more widespread today, but maintained that today's popular fear about infertility is exaggerated.

Continued on next page



Balloons at a party.



PRB's booth.



The "70 and Overs."

Continued from preceding page

Since fewer women are interested in bearing children, and unwanted fertility has been significantly reduced, the problems of infertility seem all the more prominent. In addition, problems of infertility have gained the increasing attention of physicians.

Menken stated that current medical practice leads to exaggerated diagnoses of infertility. Commonly, couples are considered infertile if they are not able to conceive after only one year of trying. Often babies are conceived after this time limit. Menken warned young women to have their fertility checked out early, so that potential fertility problems can be identified and taken into consideration.

In the second part of her speech, Menken discussed the effects of the current age structure on dependency. As a result of longer life expectancies and delayed childbearing, a relatively high proportion of people can expect to have their parents and children dependent on them simultaneously. (See graph, page 7.) Fear of infertility, however, may result in less delayed childbearing and thus higher fertility.

Themes?

Despite the difficulty of singling out particular themes and portents at such a large meeting, some recurrent trends were noticed: a suspicion of model building and a recognition of limits to simulation ("For every simulation, there is an equal and opposite dissimulation"—attributed to Paul David). A similar distrust of averages per se seemed to abound, with greater recognition of the importance of accounting for the effects of diversity and heterogeneity in making generalizations about populations.

Micro-analysis of demographic trends seemed to be gaining momentum ("the Caldwellian approach," after Jack Caldwell). And there was

growing interest in the importance of looking beyond the nuclear family as a residentially based unit, to the extended family (e.g., in support systems for the aged).

Marriage patterns, family structure, and household composition occupied a major part of the 1985 program, though they were comparatively rare themes for PAA sessions a decade ago. No fewer than 10 of this year's 63 regular sessions, along with the presidential address, and several luncheon roundtable sessions touched on these topics in one way or another with such session titles as "Living Arrangements and Household Structure in LDCs" and "Intra-Family Resource Allocation."

In addition, the changing age structure and composition of U.S. households has sparked a growing interest in family demography, along with the analytical interest in households generated by the so-called "new home economics" and the increased emphasis on household and family demography by social demographers. Ten years ago in Seattle, out of 29 sessions there was one on "the family," along with two others on women's status, work, and fertility.

Hub Sidebars

"Faded glory" was one participant's description of the meeting's hotel. Although well run and in the midst of a remodeling, the Park Plaza seemed cramped and not particularly cheery to many, especially compared to PAA sites in previous years. The lighting was dim, and audibility in some meeting rooms, not to mention heating/ventilation, left much to be desired.

As the host city, Boston had plenty to offer, especially to seafood aficionados. A plethora of seafood restaurants kept their share of PAA goers in lobster bibles.

Perhaps it was the site, perhaps the year (the year of funding dangerously), but PAA's atmosphere was a bit

subdued this time around. Apparently in keeping with the national trend toward limiting alcohol consumption, not only did the Wednesday night beer mixer run out of liquid refreshment, but so, incredibly, did the Texas party.

Dudley Kirk (Stanford University) hosted a second dinner gathering of PAA's distinguished "70 and overs." Present with Kirk were: Paul Glick, Ed Hutchinson, Eleanor Isbell, Abe Jaffe, Henry and Pauline Shryock, Elbridge Sibley, Conrad and Dorothy Taeuber, and Vincent Whitney. (See photo.) Kingsley Davis, though eligible and in Boston, did not attend the dinner, protesting "age stratification."

By mid-morning Saturday, the wind outside was gusting in a truly March way, and everyone else was blown out, as the last few sessions ran on and attendees began to trickle away, headed for Logan Airport and all points of the compass. It's a truism by now that demography has come of age; at the "70 and overs" dinner there was actually some exultation about the old days, when "we did it all with arithmetic!"

In 1986 PAA will meet in San Francisco. □

—compiled by Janine Adams, Anthony Agresta, Leon F. Bouvier, Alexander von Cube, Alice T. Day, Margaret E. Greene, Arthur Haupt, Tom Merrick, Keiko Osaki, Jean van der Tak.

Continued from page 3

Other studies of the cervical mucus method have shown use-effectiveness rates ranging from 65-94 percent.

There are a number of advantages to the cervical mucus method. For example, it can be used despite irregular ovulation and it enables couples to recognize both the pre- and postovulatory infertile phases of the menstrual cycle. While during the learning phase (about three cycles) abstinence is required during about half the days in each cycle, some experienced users have modified the method so that abstinence is required for only about one-third cycle.

The sympto-thermal method predicts ovulation by combining the BBT method with the cervical mucus method, monitoring of other bodily changes, and rhythm calculations. With this approach, if a woman cannot clearly interpret one sign she can double check her interpretation with another. Some studies indicate that multiple-indices methods may be somewhat more effective than single "index" methods. But the method may prove to be too complicated for many people.

Looking to the Future

NFP's advantages include its lack of physical side effects, use of non-physicians as instructors, and

educational value. However, many couples do not use NFP and many family planning providers do not offer it. Reasons include lower-than-desired effectiveness, and many people's fixed opinion that NFP methods must be unacceptable or too difficult to learn/use (especially by the LDC target populations), that the cost of providing intensive NFP educational services must be prohibitive, and that the demand for NFP is not large enough to warrant its inclusion in programs.

More research is required to address these issues so that decisions about using or providing NFP are based more on fact than on opinion. The Agency for International Development (AID) is the largest single donor in the field of NFP. Worldwide, NFP-related projects are being conducted under 22 AID contracts and grants, as well as AID bilateral programs in 16 countries. Workshops are being held; training and information materials are being created; operations research projects are investigating service variables and cost-effectiveness; and biomedical research projects are working at improving existing methods, working out new methods, and filling gaps in knowledge. Over the next few years, much more should be known about the advantages, disadvantages, and factors

affecting the demand, choice, and successful use of NFP. □

Jeff Spieler and Alexandrina Shuler are with the U.S. Agency for International Development; Spieler, in the Research Division, Office of Population, and Shuler, on the Publications and Information Staff in the Bureau for Science and Technology.

Roman Catholics Promote NFP

Notable among various natural family planning (NFP) programs in the U.S. is one established by the National Conference of Catholic Bishops, which in November 1981 created a Diocesan Development Program for Natural Family Planning.

During the past three years, this program's primary goal has been to assist each diocese in initiating or expanding an NFP program, and to (in the words of its report) conduct "a broader, more decisive, and more systematic effort to make the natural methods of regulating fertility known, respected, and applied."

Some 164 dioceses (as of the end of 1984) have appointed a diocesan NFP coordinator. The Development Program itself, located at Seton Hall University, is now into its second phase of activity, in which it continues to work with dioceses, while assisting interested Catholic hospitals, and consulting with other NFP providers. □

Population Update

Estimated United States Population:

As of December 1, 1984	237,669,000
As of December 1, 1983	235,515,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Projection Reports*, Series P-25.

Estimated World Population:

As of May 1985	4,831,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1985 population given on the 1985 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: 1984 Summary

Item	12 months ending with December					
	Number		Rate			
	1984	1983	1984	1983	1982	1981
Live births	3,697,000	3,614,000	15.7	15.3	16.0	15.9
Deaths	2,047,000	2,010,000	8.7	8.6	8.6	8.7
Natural increase	1,650,000	1,604,000	7.0	6.9	7.4	7.2
Marriages	2,487,000	2,444,000	10.5	10.5	10.8	10.6
Divorces	1,155,000	1,179,000	4.9	5.0	5.1	5.3
Infant deaths	39,200	39,400	10.6	10.9	11.2	11.7
Population base (in millions)	...	...	236.1	233.7	231.5	229.3

Note: Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source: *Monthly Vital Statistics Report* (Vol. 33, No. 12) from the National Center for Health Statistics.

NEW FROM PRB

Back by popular demand is the teaching module, "World Population: Toward the Next Century." Originally written in 1981 by Elaine M. Murphy, the 16-page module has been updated with new data and resources. It covers the history of world population change and growth, the current picture and future trends. Four centerfold pages feature the 1985 World Population Data Sheet, and a glossary lists important population terms. Exercises at the end are presented in reproducible worksheet format.

Copies of "World Population: Toward the Next Century" are available at the following prices: single copy \$2.00; two or more copies \$1.75. Orders under \$20.00 must be prepaid with a \$1.00 shipping/handling fee included. Send all orders to PRB, P.O. Box 35012, Washington, D.C. 20013.

SOFTWHERE

Demographers discovered some time ago that microcomputers offer wide applications, often with greater flexibility and lower cost than larger computers. Spreadsheet packages such as VisiCalc, SuperCalc, and Lotus 1-2-3 have proved invaluable for population projections, life tables, data entry, and editing (PRB's 1985 *World Population Data Sheet* is now assembled on a spreadsheet).

At last month's PAA meeting (see page 2), a lively, well attended panel session covered innovative and appropriate uses of micros. The Census Bureau is designing software for country level population estimates and considering direct phone transfer of data to micro users. The Bureau as well as the University of Chicago and the Westinghouse Population Group have established electronic bulletin boards for demographers with micros. □

PT readers wishing to share population related software, spreadsheet applications, or other personal-computer solutions (or software needs, for that matter) can list them in PT will print problems and solution gratis on a space-available basis, without endorsing the claims therein. Write to: "Softwhere," *Population Today*, 2213 M St. N.W., Washington, D.C. 20037.

TAKE A NUMBER...

Some Hispanic Confusion: The Census Bureau has released a report, *Persons of Spanish Origin in the United States: March 1982*, which contains a complete profile of that population. However, one caution about the numbers of Hispanics in the U.S. is in order: The total Hispanic population shown in most of the tables is 14.0 million for 1982 while the 1980 Census counted 14.6. How can this be? The report is based upon the Bureau's Current Population Survey (CPS), whose sample is still based on the 1970 Census (it takes quite a while to develop the CPS's complex sample and one based on the 1980 Census will soon be ready). It appears that the 1980 Census did a much better job counting the Hispanic population and the number shown in the CPS will most certainly rise when the 1980 Census-based sample is used. In 1982, the Bureau estimated the Hispanic population at 15.4 million, based on estimates of births and deaths and immigration data. The CPS numbers are still, of course, essential for measuring the social and economic status of

Hispanics and are not really intended to "count" populations.

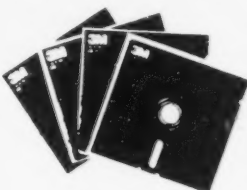
A Passage to India: Moviegoers have been most impressed by filmmaker David Lean's painstaking recreation of another exotic world. An interesting sidelight: India's population at the time of the story was "only" about 260 million (as of 1925)—not counting the areas that became Pakistan (an additional 22 million) and Bangladesh (an additional 34 million). Now, 60 years later, the respective populations are 762 million, 99 million, and 101 million—a threefold increase in 60 years.

Here and There... the Census Bureau reports that in 1981 about 47 percent of divorced mothers did not receive child support payments due them... also from Census, about 1 in 5 children in the U.S. lived below the poverty line in 1983... although it is obvious that rural to urban migration is a major contributor to city growth in less developed countries, natural increase is also a very important factor. Mexico City's past growth was only one-third due to migration with the rest accounted for by the birth rate...

...addenda

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MacTruck	\$195
Turbo Fatal Error	\$359
Populandia—The Game	\$39
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CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

NEW CONCEPTIONS: A Consumer's Guide to the Newest Infertility Treatment, Including In Vitro Fertilization, Artificial Insemination, and Surrogate Motherhood. by Lori B. Andrews. New York: St. Martin's Press, 1983. 326 pages. \$14.95 ISBN 0-312-56610

Written by a lawyer/journalist, this book objectively evaluates all the newest infertility treatments. The medical, legal, emotional, and financial considerations are described in depth in lay terms. Written for the consumer, the book fills the information gap between medical journal articles and daytime talk shows.

Among the topics discussed are the treatments that allow normal conception, the pros and cons of the new techniques, how to compute the costs and understand the procedures, and the legal and ethical ramifications of the procedures.

An extensive bibliography and appendix provide a list of centers performing the various techniques as well as examples of legal cases and other resources on these topics. The book is a good resource both for infertile couples who want to become parents and for those who counsel them.

—Janine Adams

INFLATION AND THE ECONOMIC WELL-BEING OF THE ELDERLY. by Robert L. Clark, George L. Maddox, Ronald A. Schrimper, and Daniel A. Sumner. Baltimore, Md.: Johns Hopkins University Press, 1984. 140 pages. \$18.50. ISBN 0-8018-3218-7

The authors of this clearly argued, informative book (three professors of economics and business, and one of sociology and medical sociology) have analyzed government surveys, such as the Consumer Expenditure Survey, to determine shifts in the real income and consumption patterns of the aged, and how older people's sources of income responded to rising prices during the 1970s. Because a substantial portion of older people's income comes from government transfers, the effects of inflation on real income and economic well-being of the aged have important policy implications.

The authors find that the aged are no more vulnerable to inflation than are other age groups. Contrary to conventional wisdom, the elderly's major sources of income (i.e., earnings, social security benefits, pensions, federal transfer pro-

grams, and returns on assets) are not fixed but rise with price increases.

However, the authors stress the importance of inflation protection provided to older people over the last decade through federal programs, and acknowledge that reducing or eliminating the automatic increase of social security benefits could substantially alter the well-being of the elderly achieved during the 1970s.

—Alice T. Day

POPULATION POLICIES IN ASIAN COUNTRIES: CONTEMPORARY TARGETS, MEASURES AND EFFECTS. by Hermann Schubnell et al. Hong Kong: Drager Foundation, Federal Republic of Germany and Centre of Asian Studies, Univ. of Hong Kong, 1984. 681 pages. HK\$180. ISSN 0378-2689.

This large collection of papers contains up-to-date, first-hand material on the state of the art of population policies in Asian countries. The papers were contributed by participants at a Symposium held at the Center for Asian Studies, Hong Kong, January 1984.

Reflecting the eclectic interests of a diverse gathering, the papers cover a broad range of topics. Among the major themes noted in Lincoln Day's summary of the proceedings were: the need for more (and more accurate) data; the paucity of theory with which to study and account for demographic behavior; the importance of recognizing the diversity of subgroups within populations; changes to be anticipated with the aging of Asian populations; and male/female differentials, particularly with respect to geographic mobility, labor force participation, and the consequences of longer life span for social support.

The papers present fresh data and provocative perspectives: there is a gold mine of material here for the student, layperson or academic with a yen to know about the challenge of population in Asia.

—Alice T. Day

PUBLICATIONS RECEIVED

DETERMINANTS OF REGIONAL VARIATIONS IN INFANT MORTALITY IN RURAL INDIA. by Anuridh K. Jain. New York: Population Council (Working Paper No. 20), 1984. 37 pages.

ESTIMATES AND PROJECTIONS OF URBAN, RURAL AND CITY POPULATIONS, 1950-2025: The 1982 Assessment. Dept. of International Economic and Social Affairs. New York: United Nations, 1985. 148 pages.

L'ÉVALUATION DES EFFECTIFS DE LA POPULATION DES PAYS AFRICAINS. Tome II. Groupe de Démographie Africaine. Paris: IDPINED-INSEE-MINCOOP-ORSTOM, 1984. 423 pages.

THE FAR EAST AND AUSTRALASIA 1984-85. Europa Publications Limited. Detroit, Mich.: Gale Research, 1984. 945 pages. \$140.00.

GETTING TOUGH: Public Policy and the Management of Pesticide Resistance. by Michael Dover and Brian Croft. Washington, D.C.: World Resources Institute, 1984. 80 pages.

HOUSING & URBAN DEVELOPMENT IN THE USSR. by Gregory D. Andruss. Albany, NY: State University of New York Press, 1984. 354 pages. \$14.95.

METROPOLITAN STATISTICAL AREAS: 1980 Census of Population (as defined by the Office of Management and Budget in 1983). U.S. Bureau of the Census, 1984.

THE MIDDLE EAST AND NORTH AFRICA 1984-85. Europa Publications Limited. Detroit, Mich.: Gale Research, 1984. 801 pages. \$120.00.

POLITICAL-MILITARY APPLICATIONS OF BAYESIAN ANALYSIS: Methodological Issues. by Douglas E. Hunter. Boulder, Colo.: Westview Press, 1984. 293 pages. \$22.50.

POPULATION AND RELATED ORGANIZATIONS: International Address List, by the Association for Population/Family Planning Libraries and Information Centers-International (APLIC). Chapel Hill, N.C.: Carolina Population Center Library, 87 pages. \$45.00.

POPULATION, ENVIRONMENT AND RESOURCES, AND THIRD WORLD DEVELOPMENT. edited by Pradip K. Ghosh. Westport, Conn.: Greenwood Press, 634 pages.

POPULATION, RESOURCES, ENVIRONMENT AND DEVELOPMENT. International Conference on Population, 1984. Proceedings of the Expert Group on Population Resources, Environment and Development. Geneva, 25-29 April, 1983. New York: United Nations, 1984. ST/ESA/SER.A/90/. 534 pages.

REPORT OF THE WORLD FOOD COUNCIL ON THE WORK OF ITS TENTH SESSION: 11-15 June, 1984, by the General Assembly (Official Records: 39th session). New York: United Nations, 1984. 43 pages.

REPUBLICA DOMINICANA: Encuesta Nacional de Prevalencia del Uso de Anticonceptivos - Mujeres. (Dominican Republic CPS), by Consejo Nacional de Poblacion y Familia. Columbia, Md.: Westinghouse Health Systems, 1983-1984. 187 pages.

SEX EDUCATION AND FAMILY PLANNING SERVICES FOR ADOLESCENTS IN LATIN AMERICA: The Example of El Camino in Guatemala. Prepared by The Pathfinder Fund. Working Papers No. 2. Chestnut Hill, Mass. 1985. 46 pages.

SUCCESS OR FAILURE? Family Planning Programs in the Third World. by Donald J. Hernandez. Westport, Conn.: Greenwood Press, 1985. \$29.95.

SPOTLIGHT

COSTA RICA

Population (1985, est.): 2.6 million
Capital: San Jose
Percent Urban (1982): 48
Births per 1,000 pop. (1982): 30.7
Deaths per 1,000 pop. (1982): 3.9
Infant Mortality Rate (1982): 19.3 infant deaths per 1,000 live births
Rate of Natural Increase (1982): 2.7 percent
Area: 19,600 sq. miles (a little larger than West Virginia)
Major exports (1983): Coffee, bananas, beef, sugar cane, cacao—US\$871 million
Major imports (1983): manufactures, machinery, transport equip., chemicals, fuels, foodstuffs, fertilizer—US\$870 million
GNP per capita (1983): US\$1,020

Costa Rica, a Central American country bordering Nicaragua and Panama, can provide insight into the dynamics of fertility decline in developing nations. The country is unusual in Latin America in that nearly all of its population is of European descent, predominantly Spanish, but also composed of some Germans, Dutch, and Swiss. Indigenous Indians number only about 20,000—fewer than the number present when the Spanish landed in 1522.

Unlike many Latin American countries, Costa Rica has enjoyed a long period of democratic government with smooth transitions of power. There is no standing army, although a small civil guard does exist. Rugged mountains, intersected by many streams, are a principal geographic feature; there are plains on both coasts with the wider of the two on the Caribbean side.

Until recently, the country has enjoyed a strong economy. However, sharp drops in coffee prices, along with increases in imported fuel costs, caused a steep climb in the country's trade deficit. By 1982, the public sector debt had risen to US\$3 billion. At the same time, unemployment rose and per-

sonal income fell by about one-third. Although the situation is improving, the world economic slowdown has left its mark on Costa Rica as it has elsewhere. Recent friction with Nicaragua and the activities of anti-Nicaraguan *contras* also indicate a deterioration of Costa Rica's position as a tranquil "oasis" in Central America.

In assessing Costa Rica's demography, the decline in fertility is noteworthy. From a total fertility rate (TFR) of about 7 children per woman in the late 1950s, the country's fertility has now dropped to just below 4 in the mid-1970s. For Costa Rica, whose government's financial support of family planning is weak, this decrease is considered good. Although family planning is recognized by the government as a legitimate component of maternal and child health programs, much of the fertility reduction has been due to the efforts of private groups, particularly the Costa Rica Demographic Association.

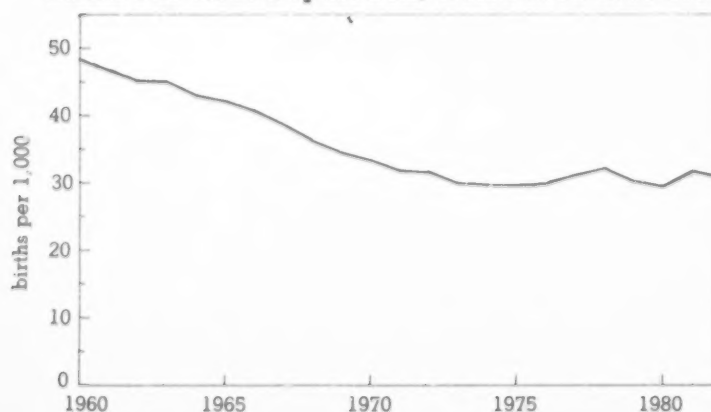
This fertility decline, however, has apparently ended. By the latter half of the 1970s, the rate stabilized at just below 4 (see graph). As a result of this stabilization, coupled with slow decreases in the death rate, the population growth rate stands just about where it did in 1970.

All in all, about two thirds of Costa Rican women use some form of birth control. This figure, reached in 1976, is virtually identical to that of many developed countries where women average under 2 children each. The reason for the higher actual fertility in Costa Rica would simply appear to be that desired family size is still about 4 children and that contraception allows women to limit their fertility to that level.

This situation is especially interesting in light of the fact that population projections for countries are often prepared with the assumption that, once a fertility decline has begun, there will be a fairly regular decrease to the two-child family required to slow and eventually end population growth. This approach to the two-child family appears to have stalled out in Costa Rica. While it may be expected that the TFR will ultimately decline to about 2.0 at some point in the future, the timing of that decline can have a large impact on the country's ultimate population size. The coming fertility trends in Costa Rica may provide clues to future patterns of fertility decline elsewhere. □

This Spotlight was prepared by Carl Haub, PRB's Director of Demographic Analysis and Public Information, and Janine Adams, Associate Editor of PT.

Births Per 1,000 Population; Costa Rica 1960-1982



POPULATION TODAY



Vol. 13, No. 6

June 1985

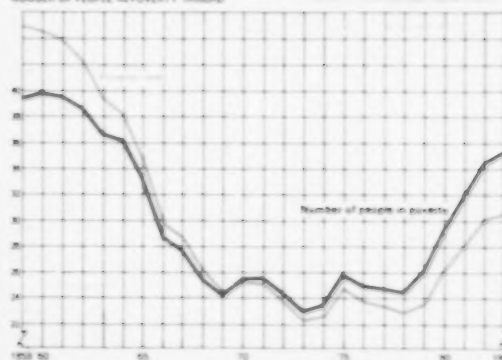
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NUMBER OF PEOPLE IN POVERTY (millions)



Number of poor and poverty rate in the U.S., 1959-1983. See page 2.

New Patterns of U.S. Poverty

Some 35.3 million Americans lived below the official poverty line in 1983, 15.2 percent of the total population, according to the latest Census Bureau data. These figures were the highest since the mid-1960s when Lyndon Johnson launched the War on Poverty, reports William O'Hare, Senior Research Associate with the Washington, D.C.-based Joint Center for Political Studies, in PRB's June 1985 *Bulletin*, "Poverty in America: Trends and New Patterns."



Public assistance programs have been most successful in reducing the elderly's poverty.

That war was expected to reduce poverty with a barrage of stepped-up cash and noncash assistance through both existing programs (Aid to Families with Dependent Children (AFDC), Social Security, subsidized housing and school lunches) and new programs (food stamps, Medicaid and Medicare, Job Corps, Community Action, etc.). That poverty figures are again as high as in the mid-1960s has led many to believe that billions of antipoverty

dollars have been wasted in the last 20 years, says O'Hare.

Charles Murray, current leading exponent of this view, argues in his much-publicized 1984 book, *Losing Ground*, that among blacks in particular, the increased government assistance unwittingly undermined the work ethic and encouraged female-headed families, the most likely to be poor. O'Hare adds, however, that others blame the poverty rise of the early 1980s on Reagan Administration cuts of \$57 billion in federal funding of poverty programs between 1981 and 1984.

The Economic Link to the Poor

In O'Hare's view, changes in social welfare policy have had little to do with poverty trends among the nonelderly over the past quarter century. Much more important is the state of the nation's economic health.

The numbers in poverty plunged during the booming 1960s and early 1970s—from 39.5 million, 22.4 percent of the population, in 1959 (the first year poverty was officially measured) to a low of 23 million, just 11.1 percent of the population, in 1973. The figures fluctuated along with the recession-pocked economy in the next five years and then turned sharply upward. Most of the 1978-1983 rise was accounted for by the "new poor," O'Hare says. Poverty increased rapidly for younger adults of working age and scarcely at all for the retired elderly, and rose more for male-headed than female-headed families and more for whites than blacks. These groups were hit hard by the deep recession and unemployment of the early 1980s. With the economic recovery in 1984, O'Hare expects the poverty rate for 1984 (due for release in late summer 1985) to be lower than 1983's 15.2 percent.

He agrees that the Reagan budget cuts have "made life much more difficult for the poor" and may have added upwards of a million to the poverty population. But "this does not explain why the poor increased by nearly 11 million between 1978 and 1983 and why the

Continued on page 8

POPULATION TODAY

VOL. 13, NO. 6

June 1985

POPULATION TODAY, the newsmonthly of population and demography, is published 11 times a year (a combined issue in July/August) by the Population Reference Bureau, Inc., founded in 1929, a nonprofit organization engaged in the objective dissemination of population information. The views and opinions of **POPULATION TODAY**'s contributors are their own and do not necessarily reflect those of PRB.

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Mailing: Printed in Washington, D.C. Mailed nonprofit postage rate in the United States; printed matter surface rate to Canada, Mexico, and to foreign subscribers.

Address Changes: Send current PRB address label and new address; please allow eight weeks for change.

PRB MEMBERSHIP

In addition to **POPULATION TODAY**, PRB members receive annually four in-depth **POPULATION BULLETINS**, two wall charts (the **WORLD** and **UNITED STATES POPULATION DATA SHEETS**), the quarterly population education newsletter, **INTERCHANGE**, with two accompanying teaching modules, and **POPULATION TRENDS** and **PUBLIC POLICY** papers as they appear.

	U.S.	Outside the U.S.
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Student** (50% discount)	20	25
Library/nonprofit organizations	50	65
Other organizations	250	315

**Educators and students should send supporting documentation.

Population Growth to Create New Array of LDC Mega-Cities

The future holds a world of congested mega-cities that will house over 15 percent of the earth's population, according to revised UN data contained in *Estimates and Projections of Urban, Rural and City Populations, 1950-2025: the 1982 Assessment*.

According to these projections, which in many cases use new data from the 1980 round of national censuses, by 2025 there will be 135 mega-cities (PT's term for cities with 4 million or more residents); and these cities will possess an average population of about 9 million (larger than today's Beijing). In 1980 there were only 35 such agglomerations.

At the same time, the share of the earth's urban population housed in cities of fewer than 1 million will decline, from 66 percent in 1980 to a projected 57 percent in 2025.*

Urban growth accounts for an ever-increasing proportion of the world's total population growth. Between 1950 and 1975, 53 percent of total growth occurred in urban areas. That share is projected to be 68 percent for 1975-2000. During the period 2000-2025, the entire increase in the world's total population will take place in urban areas, with rural populations beginning to decline in absolute numbers after 2010 for the first time in history.

*The definition of "urban" varies from country to country, and the UN accepts the definition of the term as used in the country's census or survey. In an appendix, *Estimates and Projections* lists each country's definition of urban.



Panama City — part of the Third World's urbanization trend.

In 1950 the world's population was overwhelmingly rural, with only 29 percent of the population living in urban areas. By 1980 that figure was 40, and sometime after the turn of the century it will pass the 50-percent mark. It is projected to reach 62 percent by 2025.

Not surprisingly, the less developed countries (LDCs) will bear the brunt of this urban increase. Sometime between 1970 and 1975 the LDCs surpassed the more developed countries (MDCs) in terms of numbers of urban dwellers, so that in 1980 the LDCs contained 54.8 percent of the world's urban population, and 75 percent of the total population. In 2025, 77 percent of the earth's urban population as well as 83 percent of its total population will be found in the developing countries.

Historically the LDCs have been far less urban than the MDCs. As shown above, the number of urban residents

in the Third World is larger than in the developed countries, but levels of urbanization are higher in MDCs when percentages are examined. However, this gap is narrowing. Whereas in 1980 29 percent of the LDCs and 71 percent of MDCs were considered urban, the LDCs in 2025 are projected to be 58 percent urban, compared to the MDCs' 85 percent urban.

Estimates and Projections divides the world's cities into three categories: those of 4 million or more, those with populations of 1 to 4 million, and those of under 1 million.

In 1980, roughly 281 million people around the world lived in cities of 4 million or more. In 2025, there will be more than 1.2 billion people living in these agglomerations, and 88 percent of them will live in the developing world. These mega-urban dwellers will then constitute 28 percent of the urban population of the developing world (2½ times the proportion observed in 1950).

The number of cities in the 1-4 million category is projected to increase steadily, from 1980's 187 to 2025's 504. However, the average size of these cities will remain relatively stable, rising from 1.7 million in 1980 to 1.9 million in 2025. The share of the urban population living in these medium-range cities will reach its peak of 20.9 percent at the end of this century, when it is expected to fall slightly, so that in 2025, cities of 1-4 million will account for 19 percent of the world's urban population (12 percent of the total population, or roughly 965 million people). □

ANNOUNCEMENT

PRB has simplified its membership structure.

In response to member feedback, PRB has changed its system so that all members will receive all PRB publications. As a result, each member will receive over 25 publications per year, including the widely praised *Population Trends and Public Policy* series, which previously had been a separate purchase item. The new fee schedule will apply immediately to new members, and will become effective for all members starting Jan. 1, 1986.

All members will now have the same status and receive the same, expanded series of publications:

- four *Population Bulletins*
- the *World Population Data Sheet* (issued in the spring)
- The *United States Population Data Sheet* (issued in the fall)
- 11 issues of *Population Today*
- four issues of *Interchange* and two accompanying modules
- *Population Trends and Public Policy* papers as they appear

The membership fee schedule is now as follows (educators and students receive discounts as shown):

	In the U.S.		Outside the U.S.
	1 year	3 years*	1 year
Individual	\$40	\$100	\$50
Educator** (30% discount)	28	70	35
Student** (50% discount)	20	-	25
Library/nonprofit organizations	50	125	65
Other organizations	250	-	315

*The three-year rate provides a discount amounting to six months free!

**Educators and students should send supporting documentation.

FROM THE EDITOR'S DESK

Is there in demography no humor? *PT's* "Addenda" column aims to lighten the general seriousness of our other coverage, but as faithful readers may already have guessed, filling "Addenda" is not always a picnic. Reading the newspapers, keeping our ears open at the PAA cash bar... these methods aren't always efficacious. So we invite constructive suggestions for "Addenda." If we don't receive any, our Demographic Staff will be forced to dig into its bag of favorite statistical jokes. For example...

"Knock, knock."

"Who's there?"

"Forty-two."

"Forty-two who?"

"Forty-two percent." (laughter, thigh-slapping)

That's just a sample. Let us hear from you.

—Art Haupt

SURVEY REPORT

Ecuador Fertility Survey

Ecuadoran women are increasing their use of family planning methods, according to a 1982 national demographic and health survey in that South American country. About 40 percent of married women use contraceptives, compared to 34 percent measured in a 1979 National Fertility Survey. Modern methods, such as the pill, IUD, and sterilization are the most popular, accounting for more than 80 percent of overall contraceptive use.

Large families are still desired: Ecuadoran women say they want 3.6 children on average. However, this figure is well below the actual fertility level of about 5.1 children per woman, suggesting some motivation for further increases in contracep-

Continued on page 5

Simpson Tries Again; Introduces New Immigration Bill in Senate

Immigration reform lives. Hill observers expect congressional action to follow a sequence of events similar to those of previous years with the Senate taking up the legislation first and the House acting later, if at all. Immigration bills have been passed by the Senate in 1982 and 1983 and by the House in 1984 only. Attempts to iron out the differences between the House and Senate bills bogged down in late 1984 and the session ended without any agreement on a bill.

Sen. Alan K. Simpson (R-Wyo.) on May 23 reintroduced his immigration reform bill. The chances of its passage in the Senate are particularly good, since he now holds the powerful position of assistant majority leader. The Chamber of Commerce of the United States, which opposed earlier versions of the bill as burdensome to the employers, endorsed this new bill.

The new Simpson bill contains changes designed to assure its passage. Stiffer penalties for employers who knowingly hire undocumented workers, and amnesty for illegal workers residing in the United States since before 1980 are also included.

The main difference between the revised bill and last year's Simpson-Mazzoli bill is that the President would be directed to appoint a "legalization commission" to determine whether the bill's sanctions against employers are working. Such a confirmation would take place one year after the law becomes effective, and no legalization of aliens could occur until the panel certified that the sanctions are working. Once sanctions were ruled effective, the Simpson bill would grant temporary legal status for two to three years to aliens who have lived in the U.S. since before 1980. Hispanic groups are reportedly skeptical that the employer sanctions will work, and they fear that as a result the legalization program will

not benefit Hispanics.

Earlier this year Rep. Edward Roybal (D-Calif.), author of the Hispanic Alternative immigration bill from last year, introduced a new bill that represented a step toward compromise (see *PT* March 1985). The bill, HR 30, provided for amnesty but also included employer sanctions. Due to pressure from Hispanic groups, Roybal has since withdrawn his support for the compromise bill and introduced a bill without employer sanctions similar to the original Hispanic Alternative bill.

Two other House immigration bills have been introduced by Republicans. Dan Lungren (R-Calif.), now ranking Republican on the House Immigration Subcommittee, has introduced a bill closely resembling the version the Senate passed last session, including a limited amnesty provision and employer sanctions. Robert Smith (R-N.H.) has introduced a plan with very stiff employer sanctions and no amnesty plan.

Before any bill is seriously considered in the House it will have to be introduced by a senior Democrat. But Democrats are apparently waiting for the Senate to act on Simpson's bill and for the White House to stake out a clear position on this sensitive policy issue.

Attorney General Edwin Meese is said to favor immigration reform proposals like last session's Simpson-Mazzoli bill. The new Simpson proposal would be less expensive to implement than previous plans because of its more modest amnesty provision, and is thus more attractive to Budget Director David Stockman who vigorously opposed the price tags attached to previous bills.

Hill observers do not expect any immigration reform action before late summer. □

Survey

Continued from preceding page

tive use. Younger, more educated women wanted 3 or fewer children, and accordingly reported higher contraceptive use.

The survey results document distinct regional differences in family planning behavior. Women in the high Andean region, site of the capital city Quito, are less likely to use family planning, though when they do they are more likely to use the IUD or a traditional method such as rhythm. Along the Pacific coast, dominated by the rapidly growing port city of Guayaquil, a larger percentage of women use contraceptives and are more likely to opt for the pill or female sterilization.

In contrast to many countries, the relationship in Ecuador between overall contraceptive use and fertility is not uniformly negative. Although a larger percentage of women use family planning in the coastal region, which includes a large rural agricultural population, fertility is slightly higher there. Unfortunately, reliable national fertility measures are not yet avail-

able from this survey.

Aside from family planning and fertility, the survey focused on child and maternal health. Information on pre- and postnatal care, breastfeeding, and child immunization coverage are presented in this final report. These data, describing the availability and source of family planning and other health services, provide valuable input for the evaluation of existing government programs. □

WORLD FOOD NEWS

A major committee of the Food and Agriculture Organization (FAO) of the UN has endorsed a world code of conduct on pesticides. The Committee on Agriculture (COAG) endorsed the Code in principle and it will next be discussed at the June session of the FAO Council for eventual submission to the FAO Conference in November. The Code is intended to help identify potential hazards in the distribution and use of pesticides. It also establishes standards of conduct and defines responsibilities for all engaged in the

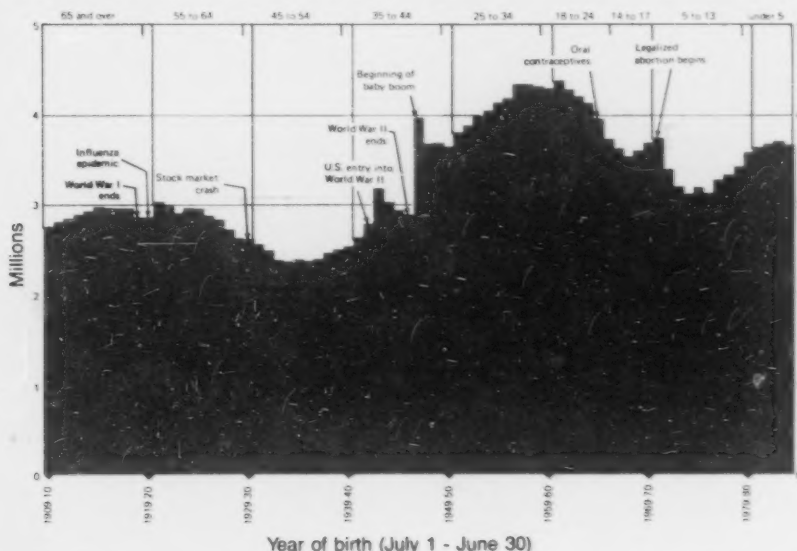
regulation, distribution, and use of pesticides. COAG described the Code as the end result of wide and extensive consultations with member nations, appropriate UN organizations, nongovernmental organizations, and the pesticide industry.

Among other major topics discussed by COAG was the role of so-called "minor crops" in nutrition and food security. Traditional foodstuffs such as roots and tubers, local grains, legumes, vegetables and fruits have not received adequate attention, according to COAG delegates, who stressed the unique role these foods could play in alleviating seasonal food shortages in rural areas. COAG recommended a stronger reorientation of agricultural research toward these long-neglected crops and a greater exchange of information and experience among developing countries.

World Food News is prepared by the North American Liaison Office of the Food and Agriculture Organization of the United Nations.

SPEAKING GRAPHICALLY

Number of Births, by Year, 1910 to 1984, and Relationship to 1984 Age Groups



The graph above clearly illustrates the influence of social, economic, and political phenomena on fertility in the U.S. Each bar reflects the number of births during a given year. It is interesting to note that events such as war, the advent of the pill, and the legalization of abortion were followed by a marked decline in births.

Source: *Current Population Reports*, P-25, No. 965.

PRB

The Population Reference Bureau, Inc., has a new logo (see above).

Consisting of the letters P R B, the new symbol was created by the Washington design firm of Hyson/Ferretti/Morris, Inc. Later this year it will begin decorating PRB publications and letterheads.

"We wanted a fresh design that would capture our perception of PRB as professional, up to date, and readily accessible to the public," said Thomas W. Merrick, PRB's President. "We think our new logo gives a strong thrust to the Bureau's expanding activities during the 1980s—and beyond, for that matter."

The new design replaces PRB's "crowd of androids" logo, in use for the past decade, which had venerably been to PRB what "Big Boy" is to Bob's Big Boy restaurants. Recently, Bob's decided to stay with their symbol, but PRB's people-and-Venus-and-Mars-sign disk is now history. □

DEMOGRAPHER'S

Emigration as an Auxiliary Method of Population Control

by Thomas J. Espenshade
and Leon F. Bouvier*

It is generally known that a country having fertility below replacement and a constant annual number of immigrants arrives eventually at a situation of zero population growth.^{1,2} Neither government policymakers nor individual families need modify their behavior to ensure that a stationary population will result. It is guaranteed as long as initial conditions of fertility, mortality, and immigration do not change.

The twin circumstances of below-replacement fertility and net immigration are more likely to characterize developed than developing countries. Leaders in low-income countries are often confronted with the problem of reducing high rates of population growth—if not to zero, then to a level below the prevailing one. In this article, we focus on several ways this reduction in population growth rates might be accomplished, and we include emigration in the discussion as an auxiliary and often overlooked policy variable.

By focusing on emigration, we do not mean to suggest that it is either a general or a permanent solution to overpopulation. But for countries that are faced with high rates of population growth, emigration (in addition to fertility reduction) can offer some temporary relief from constant population pressure. In the long run, of course, the only relief on a world scale comes from lowered birth rates.

*Funding for this research was provided by a grant to the Population Reference Bureau, Inc., from the Alfred P. Sloan Foundation. Charles Calhoun, Maureen Lewis, and Douglas Wolf made helpful comments on this report. The splendid assistance of Anthony Agresta, Mary Kent, and Terri A. Murray in the preparation of this report is gratefully acknowledged.

The countries to which the following analysis is applicable are those with fertility rates above replacement and with net out-migration at all ages. It is assumed that the out-migration is not already so large as to produce zero or negative rates of population growth. The situation of fertility above replacement coupled with net out-migration is one in which many developing countries may find themselves. In addition, this set of circumstances provides an interesting and useful complement to the case where fertility is below replacement with net immigration.

The Demography of Population Control

Suppose, for the sake of argument, that there is no immigration and that r , the stable or intrinsic rate of a country's population growth implied by the indefinite continuation of age-specific rates of fertility, mortality, and emigration, is greater than zero. Suppose also that the country's policy objective is to reduce r to zero by f , an appropriate reduction in fertility.

Fertility declines can take on many different age patterns. Assume that the fall in fertility can be approximated by multiplying initial fertility rates at each age a by e^{-fa} where f is some constant greater than zero. One advantage of choosing this particular form of fertility reduction is that the percentage reduction in fertility is proportional to the age of the woman. In other words, the percentage reduction in fertility at age 30 is twice as great as the percentage reduction at age 15. To a first approximation, this formulation captures the way fertility declines usually occur.

If r^* is the new intrinsic long-term population growth rate corresponding to the new (and lower) fertility schedule, then $r = r^* + f$ or $r^* = r - f$. Therefore, if f is chosen equal to r , the prescribed fertility reduction will be just sufficient to cause r^* to equal zero. A value of f larger than

r will produce a negative value for r^* , and a value of f less than r will lower the long-term population growth rate, but not all the way to zero.

Alternatively, suppose that it is considered not possible or not advisable to attempt to alter fertility and, in addition, that increases in mortality are not likely. Then another approach policymakers may choose in order to lower population growth rates is to encourage additional out-migration. We have assumed that out-migration is already underway. Now suppose that out-migration rates are increased by an amount m at each age.

If r^* is once again the new long-term rate of population growth resulting from higher emigration, $r^* = r - m$ so that if m is chosen equal to r , the additional out-migration that results will be just sufficient to reduce r^* to zero. More out-migration than that will yield a negative long-term rate of population growth. If m is less than r , r^* will be positive.

The Effects Combined

Up to this point we have kept separate the strategies of reducing population growth rates by reducing

Table 1: Age Sex Distribution of Baseline Population.
"Stablistan" 1980 (nos. in 1,000s)

Age group	Females	Males
0-4	5,383	5,595
5-9	5,233	5,424
10-14	4,723	4,848
15-19	4,029	4,015
20-24	3,088	2,930
25-29	2,530	2,367
30-34	2,038	1,908
35-39	1,698	1,602
40-44	1,439	1,398
45-49	1,196	1,171
50-54	952	930
55-59	777	748
60-64	627	577
65-69	504	456
70-74	395	355
75+	555	485
Total	35,167	34,809

Note: "Stablistan" in 1980 is assumed to have the age-sex composition of Mexico in 1980.

Table 2: Fertility Schedules Used in the Projections

Mother's age	Fertility rates Base Run ($f = 0$)	Fertility rates lower fertility ($f = .0143$)
15-19	0.104	0.081
20-24	0.220	0.159
25-29	0.215	0.145
30-34	0.186	0.117
35-39	0.142	0.083
40-44	0.051	0.028
45-49	0.008	0.004
Total fertility rate	4.630	3.085

fertility or by accelerating out-migration. They may now be combined to yield a more varied and flexible policy choice. Suppose that fertility and out-migration are adjusted in ways we have described by f and m , respectively. Then it will be the case that

$$m + f + r^* = r \quad (1)$$

Equation (1) carries the central message of population control approaches embodying emigration. In it, r represents the current rate of long-term population growth. We may think of r^* as a target rate, to be achieved eventually through a modification in the population's current behavior—that is, through an alteration in fertility and/or out-migration behavior. If we write (1) as

$$m + f = r - r^* \quad (2)$$

then equation (2) tells us how large m and f may be to yield the desired target rate of population growth, r^* , given the current intrinsic rate, r .

Equation (2) also tells us that there is an infinite number of combinations of m and f that will produce the same target rate. This conclusion is important because it gives policymakers more alternatives. The target rate, if it is lower than the current rate, may be achieved entirely through a reduction in fertility of the appropriate magnitude, through additional out-migration of the correct amount, or through some combination of the two approaches involving more (or less) fertility reduction paired with less (or

more) acceleration of out-migration. As long as the sum of m and f is equal to the difference between the actual and target rates, the target rate will ultimately materialize.

An Empirical Illustration

To develop these ideas further, we projected the 1980 population of "Stablistan" (see Table 1) under a variety of initial conditions. At the outset, Stablistan has a population of 69,976,000. Its crude birth rate is 33.5 per 1,000; it has an out-migration rate of 14.1 per 1,000; and its life expectancy at birth is 68 years. In projection I, the Base Run, fertility rates in column 2 of Table 2 were used in combination with the out-migration rates in Table 3 and Coale-Demeny level 21 mortality (West pattern) for males and females to project the population until a stable population was reached in the year 2060 with an intrinsic growth rate of $r = .0143$.

Suppose that an annual growth rate of 14.3 per 1,000 were judged to be too high, and that it was considered desirable to reduce this long-term rate to zero. How could this be done? Long-term zero population growth could be achieved solely by reducing

fertility and by leaving out-migration rates unaffected. One could also leave fertility untouched and encourage higher out-migration at each age.

Of course, other possibilities also exist, and the line connecting points A and B in Figure 1 shows all possible pairs of values for m and f that will produce a stationary population for Stablistan. As indicated by the label attached to this line, all points on the line produce a target rate of population growth (r^*) equal to zero.

Zero is not the only target rate that might have been selected. Another target is $r^* = .005$. Pairs of m and f leading to this target are shown by the diagonal line directly below and to the left of line AB and labeled $r^* = .005$. As the diagonal lines in Figure 1 move farther down and to the left, higher and higher target rates of population growth are reached. For example, the diagonal line passing through the origin of the diagram indicates pairs of m and f values that would leave the original stable rate of population growth ($r = .0143$) unaffected. As the diagonal lines shift upward and to the right, lower and lower rates of population growth are reached.

A diagram like the one in Figure 1, constructed using fertility, mortality, and out-migration rates for the same country, may be used in population policy discussions. First, policymakers need to choose a desirable target rate of population growth. In terms of Figure 1, they need to choose a particular diagonal line from among the many that are possible. Second, they must decide how to implement that target in terms of the appropriate combination of fertility reduction and emigration augmentation. This second decision amounts to choosing a particular point on the diagonal line they have already selected. Points closer to the vertical axis (labeled f) imply getting to the target mainly through lowering the initial fertility schedule, whereas points closer to the horizontal axis (labeled m) suggest that most

Continued on next page

Table 3: Age-Specific Emigration Schedule Used in the Base Run
(Rates are Per 1,000 Population)

Age group	Females	Males
0-4	5.8	6.3
5-9	5.8	6.0
10-14	5.5	5.8
15-19	16.6	10.9
20-24	26.9	32.6
25-29	21.7	40.2
30-34	22.7	37.0
35-39	23.2	37.7
40-44	26.6	33.9
45-49	11.8	14.4
50-54	8.8	9.0
55-59	7.0	7.2
60-64	2.4	2.5
65-69	1.1	1.1
70-74	1.1	1.1
75+	0.0	0.0

Note. Net emigration rates pertain to Greece.

of the difference between the actual rate and the target rate of population growth will be made up by increasing out-migration.

In practice, of course, policymakers do not make explicit choices about the values of m and f . What they can do is establish incentives to shift individual behavior in a particular direction. In the short run, out-migration rates may be more amenable to policy initiatives than are fertility rates.

Finally, just because all points on line AB in Figure 1 lead eventually to a zero rate of population growth, it does not follow that the sizes of the corresponding stationary populations are identical. In fact, they generally will not be the same. This idea is illustrated in Figure 2. Line I shows the population of Stablistan projected under the initial conditions of the Base Run. Population growth eventually settles down at an annual rate of 14.3 per 1,000. The Low Fertility graph (line II) shows projected population growth if point A in Figure 1 is selected—that is, if the entire reduction in the rate of population growth to zero is accomplished by a reduction in fertility and no change in the propensity to emigrate. This leads to a total fertility rate of 3.085 (column 3 in Table 2). Lastly, the High Emigration graph (line III) traces population growth if point B in Figure 1 is selected. At this point, fertility does not change and population growth is reduced to zero exclusively through higher out-migration. The total fertility rate remains at 4.63, but the

Figure 1. Combinations of m and f producing equal target growth rates, r^*

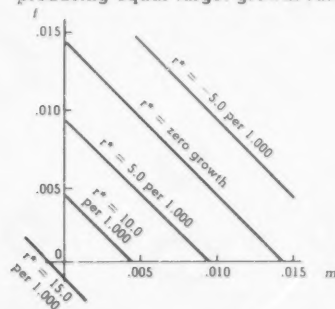
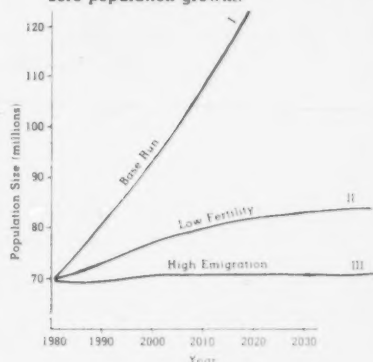


Figure 2. Base run population projection (I), and two scenarios yielding long-term zero population growth.



crude out-migration rate is increased by 14.3 per 1,000. In Stablistan, this means total out-migration of about 2 million per year.

The population growth trajectories corresponding to points between A and B in Figure 1 are contained between lines II and III in Figure 2. In Figure 2, line II lies above line III because of the effects of population momentum. Even if fertility is reduced instantaneously to a level corresponding to point A, population growth continues for a time because of the relatively youthful age composition of the initial population.

Conclusion

The theoretical stable model does not immediately translate into an "empirical" situation. Real world populations do not increase or decrease their fertility and/or migration rates in such an abrupt manner. Such changes are gradual. Nevertheless, this model suggests how policymakers can apply these demographic findings to population issues, and points out that increased out-migration is an option to consider should a reduction in growth be deemed advisable. □

References

1. Thomas J. Espenshade, Leon F. Bouvier, and W. Brian Arthur, "Immigration and the Stable Population Model." *Demography*, 1982, 19 (1), 125-133.
2. Thomas J. Espenshade and Leon F. Bouvier, "Fertility, Immigration, and Isopops." *Intercom* (Population Reference Bureau), March 1982, 8-10

Poverty

Continued from page 2

increase began in 1978, three years before the changes were implemented."

The official poverty income thresholds, updated each year to account for inflation, were \$10,178 for a family of four in 1983, and ranged from \$4,775 for a single person over 65 to \$20,310 for a family of nine or more. O'Hare notes that some critics claim that the poverty measure overstates the number of poor because it leaves out the cash value of benefits like food stamps, housing subsidies, Medicaid, and Medicare. But a 1984 Census Bureau report shows that even on this score some 24 to 31 million people were poor in 1983. Others claim that the measure, based on pretax income, has underestimated poverty since the 1981 tax changes which left the income tax threshold far below the poverty line so that a large portion of earned income of the poor and near-poor now goes to federal income and Social Security taxes.

Age Differentials

Among people aged 65 and over, the beneficiaries of the overwhelming bulk of increased government social spending since the mid-1960s, the poverty rate plummeted from 35.2 percent in 1959 to 13.9 percent in 1978 and inched up to only 14.1 percent in 1983, O'Hare reports. In fiscal 1984, federal spending on Social Security retirement checks (\$162.4 billion) was 20 times the federal share of AFDC (\$8.3 billion), the chief federal-state cash assistance program for the nonelderly poor.

From 1975 to 1984 the average annual Social Security retirement payment, indexed to rise with inflation, rose 20 percent, from \$4,162 to \$5,005 (in 1984 dollars), while average annual federal AFDC payments, which are not indexed, fell 20 percent, from \$4,795 to \$3,852 per family. Only 35 percent of poor families received cash welfare benefits in 1983, O'Hare reports.

Most cash and noncash programs that are "means-tested" (AFDC,

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Medicaid, food stamps, subsidized housing and school lunches) are intended only to provide a "safety net" of basic food, shelter, and medical care, and not to boost income above the poverty level, he points out. Federal spending on job training and educational programs that might lead to economic independence has been cut heavily since 1981, and totaled only \$5.7 billion in fiscal 1984.

Feminization of Poverty

O'Hare notes that the popular impression that welfare has fueled the increase in poor female-headed families, especially among blacks—the so-called "feminization of poverty"—is refuted by a study of Harvard researchers David Ellwood and Mary Jo Bane that found no relationship between the level of AFDC payments in different states and the proportion of female-headed families. A plausible reason for the rapid rise in female-headed black families, most of whom are poor, is the increasing dearth of "marriageable" black men, pointed out by University of Chicago sociologists William Julius Wilson and Kathryn Neckerman. Black males' rates of unemployment, incarceration, and mortality are all higher and job earnings lower than those of white males.

Half of officially poor adults aged 22-64 worked in 1983, O'Hare reports,

but could not earn enough to lift themselves and their families out of poverty, and another 10 percent reported looking for but not finding jobs. Poverty expert Michael Harrington attributes this to structural changes in the U.S. economy that have hit younger workers particularly hard—the lesser-skilled workers' loss of well-paid manufacturing jobs to mechanization and foreign competition—recently exacerbated, O'Hare adds, by recession and job competition among the swollen baby boom generation.

Welfare is still needed to tide the new poor over spells of joblessness and low earnings, O'Hare says, along with expansion—rather than threatened further cuts—of government-sponsored programs with proven track records in improving life chances for the poor (Headstart), providing disadvantaged youth with employable skills (Job Corps), and helping long-term welfare mothers find jobs (Work Incentive Program). With relatively minor initial outlays, such programs can help reduce the numbers of poor and cut federal outlays on welfare in the long run, he concludes. □

Copies of the 43-page *Population Bulletin*, "Poverty in America: Trends and New Patterns" (Vol. 40, No. 3) can be ordered for \$4.00 each; 2-10 copies, \$3.00 each; 11-50 copies, \$2.50 each; over 50, \$2.00 each. Handling charges: inside the U.S., add \$1.00 to each order; outside the U.S.,

add 25 percent of cost of the *Bulletins* ordered. Send order and remittance to PRB, Circulation Dept., P.O. Box 35012, Washington, D.C. 20013.

7,577,000 Scouts and Other Statistical Tales

As it does every year, the U.S. Census Bureau has come out with its definitive *Statistical Abstract of the United States*, the national data book and guide to sources. This, the 1985 edition, contains 1,515 tables (112 of which are new). The volume offers valuable demographic data, such as births, deaths, occurrences of disease, and immigration, but it also presents some more diverting statistics.

For instance: Only 9 percent of the population goes snow skiing at least once annually, though that figure rises with educational attainment and income. (However, 48 percent enjoy driving for pleasure.) The ranks of contact lens wearers, 4 million in 1971, have swollen to 9.9 million in 1980.

Statistical Abstract could prove to be a very useful reference tool for burgeoning trivia buffs, who can now dazzle their friends with tidbits such as: the number of Boy and Girl Scouts in the U.S. in 1983 (7,577,000); the wettest city in the

Continued on next page

Population Update

Estimated United States Population:

As of Jan. 1, 1985	237,839,000
As of Jan. 1, 1984	235,671,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 968.

Estimated World Population:

As of June 1985	4,838,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1985 population given on the 1985 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: January 1985

Item	12 months ending with January					
	Number			Rate		
	1985	1984	1985	1984	1983	1982
Live births	3,704,000	3,621,000	15.7	15.5	16.0	15.9
Deaths	2,085,000	2,013,000	8.7	8.6	8.6	8.6
Natural increase	1,649,000	1,608,000	7.0	6.9	7.4	7.3
Marriages	2,479,000	2,441,000	10.5	10.4	10.8	10.6
Divorces	1,158,000	1,174,000	4.9	5.0	5.1	5.3
Infant deaths	30,100	30,300	10.6	10.9	11.3	11.6
Population base (in millions)	...	...	236.3	233.9	231.7	229.5

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source. *Monthly Vital Statistics Report* (Vol. 34, No. 1) from the National Center for Health Statistics.

Continued from preceding page

United States (Mobile, Ala., with 64.64 average annual inches of precipitation is the highest of the cities listed); the average charge per day for a hospital room in each state (the nation's high is \$266 in California, the low \$132 in Tennessee and North Carolina); and the highest and lowest temperature on record for selected cities (the national highest: 118 degrees Fahrenheit in Phoenix, Ariz. The lowest: minus 44 in Bismarck, N.D. Honolulu has the highest lowest temperature at 30, and also one of the lowest highest temperatures, 98). □

Statistical Abstract of the United States is available from Superintendent of Documents, GPO, Washington, D.C. 20402 at a cost of \$19.00.

SOFTWARE

SIG-STAT is an electronic bulletin board for anyone interested in the world of statistics. It features reviews of statistical packages, statistical freeware, and a message center.

Sponsored by the Capital PC Users Group, SIG-STAT is operated by Westinghouse Health Systems in Columbia, Md. It is on-line from 5 p.m. to 9 a.m. weekdays (Eastern Time), and 24 hours weekends and holidays. Call 301-596-3569 (or call 596-3569 in the Washington, D.C. metro area); communications parameters: 300 or 1200 baud, N,8,1. □

CORRECTION

Due to a production error, some text was inadvertently dropped from the page 2 article in the March 1985 *PT* on Social Security by Robert J. Myers. Between the end of page 2 and the story's continuation on page 6, the following words should have appeared:

"If the cost rate, so averaged, is between 95 and 105 percent of the average income rate, then the system is said to be in actuarial balance. (The author believes that this ratio is somewhat on the high side, and that the system should not be considered in balance if the cost rate exceeds the income rate by more than 1 percent.)

Some people criticize estimation of OAS-DI's long-range future solvency because of making reliable forecasts up to 75 years in the future. Admittedly, such estimating is difficult, but elements are involved whose general trends can be projected reasonably well. Most notable among these are the demographic elements—particularly the population..." □

TAKE A NUMBER...

Latest Rates from China: Reports from China for 1984 indicate a birth rate of 17.5 births per 1,000 population, and a death rate of 6.7. Both are lower than 1983's rates of 18.6 and 7.1, respectively. Some underreporting of deaths is thought to occur in China, although the country's published data are generally considered of good quality. Despite the drop of about one point in the birth rate, a preliminary estimate by Judith Banister of the U.S. Census Bureau indicates that the 1984 total fertility rate (TFR) remained at just about the 1983 level of 2.07 children per woman.

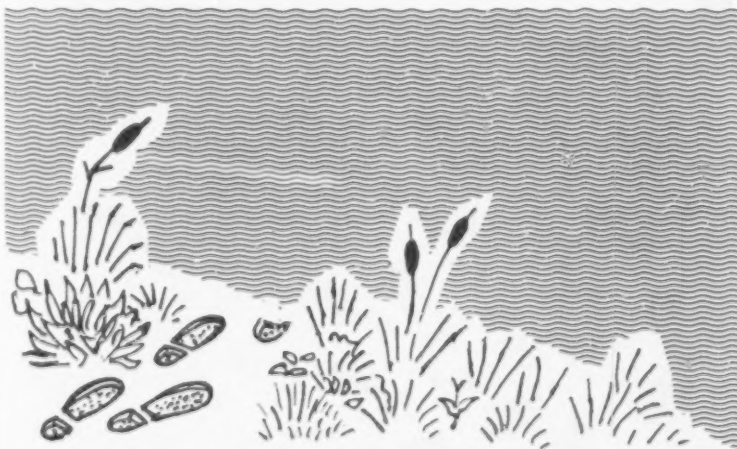
Single Years Shed Light: Census data shown by single years of age, such as those given in the UN's 1983 *Demographic Yearbook*, serve to remind us of the shaky quality of the data in many instances. While lying about one's age may be a popular sport in developed countries, the situation is somewhat different in developing countries. In many LDCs, knowledge of one's age is often lacking, so that when asked, many must guess. Much of this guessing favors round numbers such as those ending in zero or five. In Bangladesh's 1974 Census, for example, there were 2.8 million people reported as age

30, but only 124,209 reported as age 31. Demographers refer to this sort of reporting as "age heaping."

Preferring Bypass to Boston: In a recent Gallup poll, almost half of Americans interviewed said that they preferred living in a small town of 20,000 or less or in rural areas. Only 7 percent chose a city of 1 million or more. Oddly enough, only one-third of those living in large urban areas expressed dissatisfaction with their place of residence, so a mass exodus to the countryside is not expected.

Here and there... The mythical average American continues to get older as the U.S. median age hit 31.2 in 1983... The World Bank estimates that Finland's population has the world's most even income distribution, with the top fifth earning four times the bottom fifth; in the U.S., that ratio is 16:1 and in Brazil 33:1... the U.S. birth rate stopped declining in 1984 and is, in fact, a bit higher than 1983, 15.7 births per 1,000 population in 1984, 15.5 in 1983... about one-third of the U.S. adult population are sufficiently illiterate so that they cannot read a daily newspaper or the warning label on an aerosol can, according to Jonathan Kozol, author of *Illiterate America*...

...addenda



Statistician wading across stream with an average depth of 2½ feet.

With thanks to the L.A. Herald's Irving Bengeldorf

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

WE CAN MANAGE: Expectations about Care and Varieties of Family Support among People 75 Years and Over. by Alice T. Day. Melbourne, Australia: Institute of Family Studies, Monograph 5, 1985. 168 pages. \$7.00

This paperback is about the "very old" living outside institutions in household situations. It presents findings and interpretations of interviews with 23 persons over 75 years of age.

The study was part of a survey of persons 60 and older living in Sydney conducted by the Ageing and Family Project of the Australian National University. Day writes that the very old are best served where both "affection" and "practical help" are present; the transition from self-help to dependence is a most critical process; female relatives provide the bulk of support for the aged; needs of old people ought to be satisfied as they themselves define these needs; and perhaps most importantly, in Australia as in the U.S., the very old are deeply concerned about being stripped of their dignity and independence.

This well-written book raises important universal issues that touch the very old most, but should concern all age groups in society—among them, questions of resource allocation, the balance of government and family support, and reasons why children may be unavailable to help older parents.

—Alex von Cube

WOMEN ... A World Survey. by Ruth Leger Sivard. Washington, D.C.: World Priorities, 1985. 44 pages. \$5.00 ISBN 0-918281-00-8.

"The changes achieved in women's status during the period since World War II have been extremely uneven, and on the whole, modest ... Throughout the world women are still disproportionately represented among the poor, the illiterate, the unemployed and underemployed."

So begins this very attractive three-color survey of women worldwide: their work, health, education, and social and political status. Throughout the body of this 44-page work, colorful and imagina-

tive graphics provide an at-a-glance perspective on virtually all the data presented.

The text is a running commentary on various aspects of the data, often providing quotable quotes. This publication, by the author of the annual *World Military and Social Expenditures*, is appropriate for anyone interested in the status of women. Its presentation of hard data in a clear, easy-to-read format is ideal for students, both as a text and a reference work.

—Janine Adams

METHODOLOGIES FOR THE COLLECTION AND ANALYSIS OF MORTALITY DATA: Proceedings of a Seminar at Dakar, Senegal, July 7-10, 1981. edited by Jacques Vallin, John H. Polard, and Larry Heligman. Liege, Belgium: Ordina Editions, 1984. 510 pages.

The first six chapters of this book deal specifically with a variety of indirect data collection strategies, some of which have been successfully implemented in developing countries.

The section on Mortality Measurement emphasizes the life table. Other issues in this second section include a synthesis of the indirect methods available for measuring mortality in developing countries, how best to summarize the mortality situation in a country, and the traditional problems of age, period, and cohort analysis.

The exploration of data for characteristics that correlate with increased probabilities of death is always a major preoccupation in mortality analysis. The book's third section deals with this topic from many different perspectives.

Methodologies for the Collection and Analysis of Mortality Data provides a highly structured account of the three critical stages in mortality analysis. It is well organized and includes chapters from a number of experts in the field. However, the highly mathematical text may not be easily understood by the lay person.

—Anthony Agresta

PUBLICATIONS RECEIVED

CHILD SURVIVAL: Strategies for Research. edited by Henry Mosley et al. New York: Cambridge University Press, 1984. 401 pages. \$32.50.

EIGHTY PLUS: Outgrowing the Myths of Old Age. by Eena Job. St. Lucia, Queensland, Australia: University of Queensland Press, 1984. 235 pages. \$30.00.

GREATER WASHINGTON 1984 DATA BOOK. compiled by Janice Hamilton Outtz. Washington, D.C.: Greater Washington Research Center, 1984. 137 pages. \$20.00 (student price \$10.00).

INTRAUTERINE CONTRACEPTION: Advances and Future Prospects. Proceedings of an International Workshop on Intrauterine Contraception. edited by Gerald I. Zatzuchi et al. Philadelphia: Harper & Row, 1985. 504 pages.

MIGRATION AND GEOGRAPHICAL CHANGE. by Philip Ogden. New York: Cambridge University Press, 1984. 107 pages. \$13.95.

1984 YEARBOOK OF LABOR STATISTICS. Geneva, Switzerland: International Labor Organization (available from UNIPUB, Ann Arbor, Mich.) 1984. 911 pages. \$71.25.

THE POLITICS OF POPULATION IN BRAZIL: Elite Ambivalence and Public Demands. by Peter McDonough et al. Austin, Tex.: University of Texas Press, 1981. 178 pages. \$22.50.

POVERTY AND POPULATION: Approaches and Evidence. by Gerry Rodgers. Geneva, Switzerland: International Labour Organization, 1984. 213 pages. \$15.70.

RURAL DEVELOPMENT: Putting the Last First. by Robert Chambers. New York: Longman, 1983. 246 pages. \$5.95.

TROPICAL MEDICINE: Critical Reviews. edited by R.K. Chandra. New York, N.Y.: Plenum, 1984. 273 pages. \$45.00.

VERICOCELE AND MALE INFERTILITY: Recent Advances in Diagnosis and Therapy. edited by E. W. Jecht et al. New York: Springer Verlag, 1982. 211 pages. \$45.00.

WOMEN IN THE WORLD-SYSTEM: Its Impact on Status and Fertility. by Kathryn B. Ward. New York: Praeger Special Studies, 1984. 191 pages. \$25.95.

WOMEN OF THE WORLD: Sub-Saharan Africa. by Jeanne S. Newman. Washington, D.C.: Bureau of the Census, Data User Services Division, Customer Services (Publications). 200 pages. \$5.50.